THE SEAMANS KALENDER. OR An Ephemerides of the Sun, Moone, and certaine of the most notable fixed Starres.

Together with many most needfull and necessary matters, to the behoofe and furtherance principally of Marriners and Seamen: but generally profitable to all Trauailers, or such as delight in the *Mathematicall* studies.

The Tables being for the most part Calculated from the yeere 1601. to the yeare 1624. *By I. T.*

LONDON.
Printed by E. Allde for Iohn Tapp, and are to be solde at his shop on Tower-hill neere the Bulwarke gate,
1602.

To the Right vvorſhipfull Sir Iohn Paieton Knight, Lieftenant for the Queenes moſt excellent Maieſty, of her Highnes Tower of London. I.T. wiſheth worlds pleaſures, and heauens happines.

THe Bee (Right Worſhipfull) by ſerious Induſtry, gathering a certaine hidden vertue from ſundry ſortes of flowers and hearbes; and making thereof (by labour and trauaile) a materiall Lumpe, namely, the Honny Combe: is not therefore to be condemned by any, but rather highly commended of all. The Phiſition, of many ſimples making one compound medicine, doth not onely thereby reape profit to himſelfe, but applaudity of others: And the ſtudious Reader, out of many Authors doth ſelect ſome chiefe principles, which hee recordeth as memorials, eyther to profit himſelfe or to pleaſure others.

Of theſe three compariſons, the firſt is excellent for immitation in generall: The ſecond very neceſſary for diuers in perticular: And the laſt, though not ſo highly eſteemed of the common ſort of people, by reaſon of their ignorance in Artes and Sciences, yet for the good that may come thereby to a common wealth, nothing inferiour to the beſt: eſpecially, where their ſtudy tendeth to good & vertuous exerciſes, or the practiſe and contemplation thereof to laudable Artes and Sciences. Of which Artes, namely *Mathematicall*: Nauigation being a principall member, as hauing participation in *Arithmeticke*, *Geometry*, *Geography*, *Coſmographie* and *Aſtronomy*, or rather to ſay the truth, being the quinteſſence of them all, yea the proofe and tryall of them: for albeit, that men read or heare neuer ſo much of *Coſmographie* or *Aſtronomie*, yet without practice and experience it is vnperfect: & how can perfection bee attained but by Sayling and tranſporting from place to place, thereby beholding the diuerſityes of dayes and nights, with the temperature of the ayre in ſundry Regions, whereby the whole courſe and reuolution of the Spheare is made apparant to mans capacity? and by what meanes can Sayling be performed but by Nauigation? Which ſo being, it may bee affir-

med, that as the *Mathematical* Sciences are the grounds of Nauigation, so is Nauigation the onely meanes, whereby the excellency of those Artes and Sciences, are prooued and layde open to the view of the world. Therfore verie aptly may Artes be tearmed the Mirrour of Nature, because that by Artes, the wonderfull & hidden secrets of nature are reuealed: And Nauigation may bee called the tryall of Artes, being that thereby the whole study of Artes is prooued to be true. These reasons mouing mee, as also being many times conuersant with Seamen and Mariners, whereby I perceiued what they (I meane the common and plainer sort of them) chiefly desired at my best leysure: I made a collection of such Tables and rules, as I thought fittest for their purposes: and being instantly vrged by diuers to publish them, although I was very loath to aduenture my simple labours to the common view of carping censurers: yet at last (hoping well of the best, and not greatly respecting the worst) I resolued to hazard my papers to the Presse, and my selfe to the censure of seuerall opinions: when bethinking with my selfe (as the common customs of the world is) vpon a Patron, to protect it from the malitious slaunders of malignant spirits, I presumed vpon your Worships fauour, in two respectes: the one, in consideration that your selfe, being so well acquainted in the Artes *Mathematicall*, would (though not in respect of the Author, yet for affection to the matter) vouchsafe the protection of them. The other that being in duety bound, to be at your Worships pleasure, I know not how I might shew my selfe dutifully affected, better then by Dedicating my (though vnpolisht, yet well willing) labours, to your fauourable disposing: beseeching your Worship to accept of them, and to pardon my boldnes, and so with my dayly prayers to God for your health & prosperous successe in all your actions, I rest

Your Worships, most dutyfully to be commanded *Io. Tapp.*

To the curteous Readers health.

GEntle & indifferent Readers, whose iudgements are not so sophistically mixed with humorous conceipts and quipping quidities, as many are now adaies, who are apter with their turbulent tongues to condemne all things, then with sensible iudgements to amend any thing: as for them or any such carping Zoylistes, I am indifferently perswaded to set as lightly by their partiall & iudiciall censures, as they are farre from hauing a good opinion of ought but what is agreeable to their owne fantasticall fixions: Onely to them that are of more plausible spirits and grauer iudgements, who (for the most part in reading) applaude that which is good, and passe ouer with silence that which is not hurtfull, without scoffing at the worke, or deriding the Author: and to those that hauing small vnderstanding, are desirous of more knowledge in the Arte of Nauigation, and other Mathematicall studies: To the one I commit the censuring of my worke, & to the other the profit of my labors: Knowing that the wise will rather winke at small faultes, then rashly reprooue that which may profit others, though not pleasure themselues: and though (as I say) the curious & expert Mariner finde nothing heerin contained, which may satisfie their expectation, yet I hope they will iudge fauourably of my intention, & with patience passe it ouer for affections sake to the Arte it selfe, wish charitably that

my skill were answerable to my will: as for the meaner sort, whose experience haue not bin taxed with Artes rudyments, nor their iudgements fined with demonstratiue Illustration in the Mathematicall Sciences, but onely are now (as it were) setting themselues with willing mindes to learne what they before wanted. I make no question but as by these following Tables and Propositions they may reape profit: So accordingly, in yeelding friendlye censures vpon me and my workes, they shall answere my expectations with a full recõpence of my passed labours. And so I leaue thee friendly Reader, to the practise of what followes, hoping that as it may be profitable to all, so it can no way be hurtfull to any.

Yours to vse I. T.

Certaine definitions, meete to be vnderstood of those that vvill practise Nauigation.

A Spheare or Globe, is a round figure, made by the turning of halfe a Circle, till it end where it beganne to be mooued, or a massie body inclosed with one plat-forme or surface: in the middle wherof is a pricke, from which all lynes drawne to the surface are equall.

Center, is the point or pricke aforesayd, in the middle of a Spheare, Globe or other Circle.

Diameter is a right lyne, drawne through the Center, to the Circūference or surface of a spheare or circle to each side therof.

Circumference is a round circle equally distant on all sides, from the Center therof.

Surface or Superficies, is the vpper part of any thing.

A Degree is the 360. part of the Circumference of any circle.

A Minute is the 60 part of a Degree, being vnderstood of measure: but in time, a Minute is the 60. part of an houre, or the fourth part of a degree. 15. degrees answering to an houre, and 4. Minutes to a degree.

The Pole is a point or pricke immagined in the heauens, wherof are two, the North Pole and the South Pole, oppisite one to another: the North Pole being the Center to a circle, described by the motion of the North Starre, or the taile of the

little

little Beare: For which point aforesaid, a lyne imagined to passe through the Center of the earth, and passing directly to the opposite part of the heauens, sheweth the South Pole.

The Equinoctiall, is a great circle imagined in the heauens: also deuiding the heauens into two equal parts, and lying iust in the middle betweene the two Poles, being in compasse from West to East 360. degrées, euery degr. of terestriall measure, valewing 20. English Leagues or 60. miles.

The Meridian, is a great circle, deuiding the Equinoctiall at right angles into two equall partes, passing also through both the Poles and the Zenith: to which Circle, the Sunne comming twise euery 24. houres, makes the middle of the day and the middle of the night.

Note that euery place hath a seuerall Meridian, which doe all meete together in the Poles of the world.

Zenith, is a point or pricke in the heauens right ouer our heads, 90. degrées from the Horizon, as the Pole is 90. degrées from the Equinoctiall.

Nadir is a point or Pricke in the heauens vnder our féete, opposite to the Zenith.

Horisont, is a great circle, deuiding that part of the heauens which we sée, from the other part which we sée not.

Azimuth, is a great circle crossing the Horizont at right angles, as the Meridians doe the Equinoctiall, being many as the Meridians are: and as the Meridians concurre and méete together in the Poles of the world, so doe the Azimuthes méete the Zenith, which is the Pole of the Horizon.

Paralels, are lynes or circles equally distant in all partes one from another, as all circles of East and West are Paralell to the Equinoctiall.

Almicanterahs, are circles Pararell to the Horizon, being also circles of altitude or elenation, being that the altitude of the Sunne, Moone or Starres aboue the Horizon are described thereby: which Almicantars doe crosse the Azimuths, as the Paralels or Circles of East and West doe crosse the Meridians.

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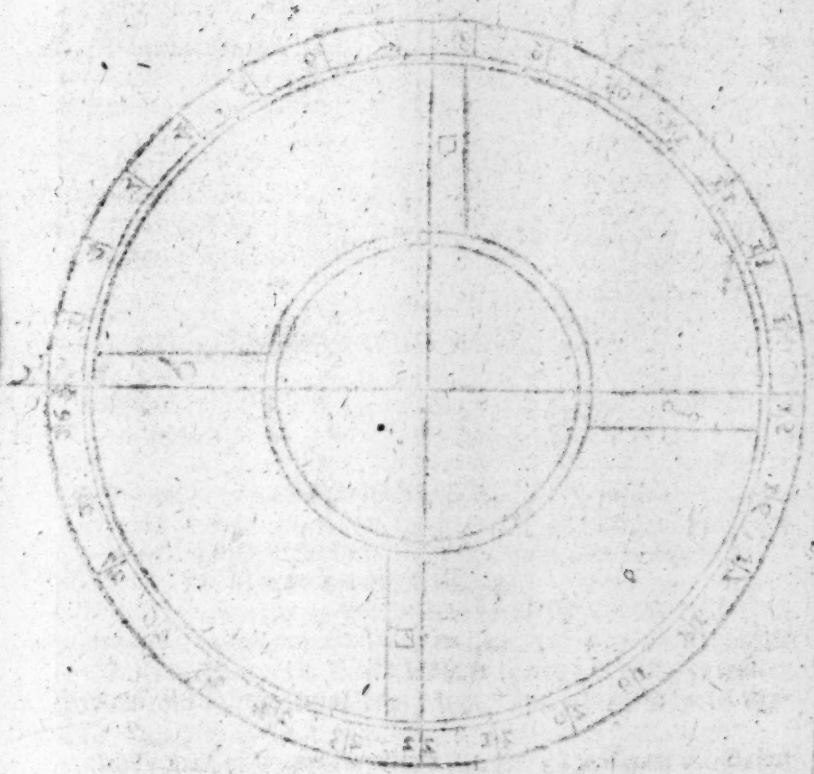

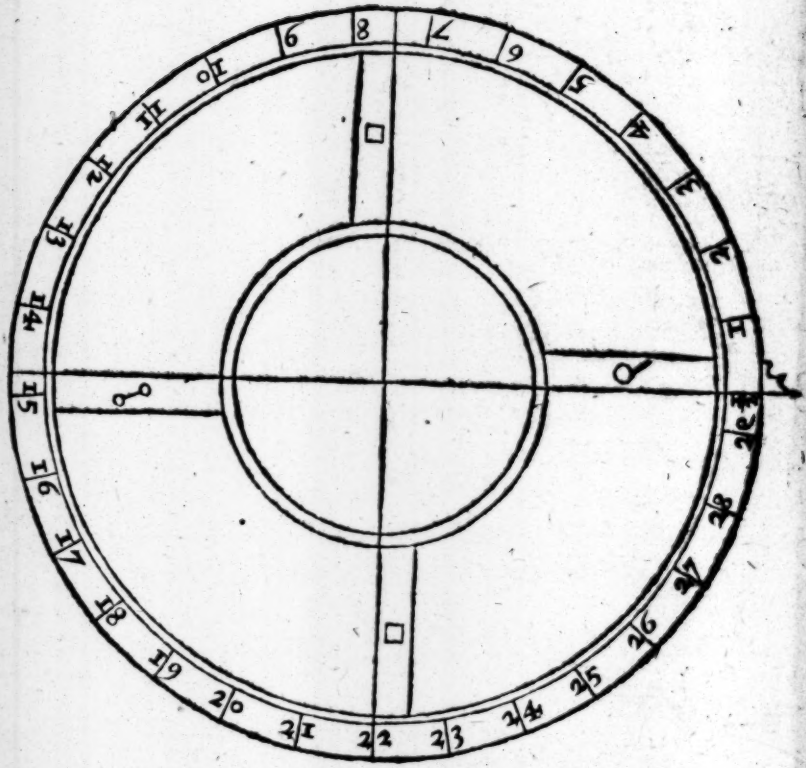
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The Tropicke, are two lesser Circles parallell to the Equinoctiall, limmitting the boundes of the Zodiacke, or the greatest declination of the Sunne on each side of the Equinoctiall: the Tropicke of Cancer northward, and the tropicke of Capricorne southward, whose distance from the said Equinoctiall are 23. degrees 28. min.

The Zodiacke, is a great Circle crossing the Equinoctiall in two oppolite places thereof, and warning 8 yas wise therefrom, towards eyther of the Poles, touching the tropicke of Canc. on the north part, and the tropicke of Capricorne on the south part thereof. In the Zodiacke are the twaine signes, viz. ♈ ♉ ♊ ♋ ♌ ♍ ♎ ♏ ♐ ♑ ♒ ♓. euery signe being 30. degr. in length, and 12. in breadth: through which signes the Sunne passing, describeth a yeare, & the Moone passing likewise through the same, makes a month: the 12. de. that the Zodiacke hath in breadth is allowed for y latitude of the planets.

The Ecliptick, is a circle lying iust in the middle of the Zodiacke, out of which the Sunne neuer goeth, but the Moone and the other planets are sometime on the one side, and sometime on the other side thereof, in which the head and tayle of the Dragon also is.

The head and tayle of the Dragon, are two oppolite points in the Ecliptick ignorant the zodiacke, which goeth backward through all the 12. signes in 19. yeares: and when it happeneth that the Sunne and Moone are in Conjunction, in that place of the Ecliptick, where the head or tayle of the Dragon is, then is the Sunne Eclipsed, and being in the oppolition, the Moone being in eyther of the said points, the Moone shall be Eclipsed.

The Circle Articke, is a circle which encloseth all those Starres which doe neuer rise nor set in any latitude, but are alwaies abone the Horizon, where the North Pole is raised: the like is understood of the Circle Antarticke, where the South Pole is rayled.

The Polar Circles, are two little Circles distant from the Poles of the world, so much as is the greatest Declination of the Zodiacke from the Equinoctiall: in which Polar circles are the poles of the zodiacke.

Colures, are two great Circles passing through both the Poles,

crossing one another in the said Poles at right angles, and deuiding the Equinoctiall and the Zodiache into foure equall partes, making thereby the foure seasons of the yeare: the one Colure passing through the Equinoctiall pointes of Aries and Libra, sheweth the beginning of the Spring time and Autumne: at which two times the dayes and nights are equall. The other Colure passing through the two tropicall points of Cancer and Capricorne, sheweth the beginning of Summer and Winter, at which two times, the dayes and nights are longest and shortest.

Altitude in the heauens, is the height of any thing aboue the Horizon towards the Zenith.

Latitude, is the wideness or distance of the Planets or Stars, from the Eclipticke, eyther Northward or southward: Also Latitude is the distance of the Zenith of any place from the Equinoctiall, towards either of the Poles, which is alwaies equall with the height of the Pole of the same place.

Longitude, is length, and in the heauens it is vnderstood the distance of any Starre or Planet, from the beginning of Aries, to the place of the said Planet or starre, or from the beginning of any signe to a certaine other part or degrée of the same signe: Otherwise, Longitude in the earth, is the distance of the Meridian of any place, from the Meridian which passeth ouer the Iles Azores: where the beginning of Longitude is said to be Longitude, is counted vpon the Equinoctiall, and Latitude vpon the Meridian.

Declination, is the declining or distance of the Sunne, Moone or Starres, from the Equinoctiall: and is said to bee North or south, according to that Pole toward which it leaneth.

Amplitude, is the distance of the rising and setting of the Sunne, Moone or starres, from the true East or West point of the Compasse vpon the Horizon.

Ascention, is the rising of any starre, or of any portion of the Eclipticke aboue the Horizon.

The Golden number or Prime, is the time of 19. yéeres, in which time the Sunne and Moone maketh all the variety of their Coniunctions, Oppositions, and other aspects.

Epact, is the 11. dayes and three houres, which are added to the

the yeere of the Moone, being 354. dayes to make it equall with the yeere of the Sunne, which consisteth of 365. dayes and ¼. By the Prime is found out the Epact: and by the Epact is found out the age of the Moone.

The Circle of the Sunne, is the number of 28: because y in 28 yeres, all the variety of Dominicall or Sunday Letters and Leape yeres are expyred, being that the 29. yeere, the said Circle doth begin againe: The vse of which number is to finde out the Dominicall Letter for any yeere past, present or to come. Where note, that there is but 7. letters which serue for Sunday letters, viz. A B C D E F G. And albeit that in the dates of the weeke, they proceed according to they^r naturall order of the Alphabet, yet in the yeeres they goe backeward: as if G. be for one yeere, F. shal be for the next: and when it is leape yeere (which is euery fourth yeere) then there is two letters for that yeere, the first seruing from the first of January till S. Mathias day, which is then the 25. of Febryary, and then the other letter takes place, and serues till the ende of the yeere.

To finde which number of the Sunnes Circle, and consequently the Dominicall letter for the yeere proposed, to the yeere of our Lord, adde 9. That totall deuide by 28. and that which remaines is the Circle of the Sunne for that yeere: Then to know the Dominicall letter, note that the 28. yeere the Dominicall letter is A. and is the third from the leape yeere: therefore the first to beginne withall againe, is GF. because it is an other leape yeere, and so counting the 7. letters back ward, and euery fourth yeere counting two letters, that letter vpon which the number of the Sunnes Circle endes, shall be the sunday letter for the yeere proposed.

As for example this yeere 1601. adding 9 thereto it makes 1610. that being deuided by 28 the remainer is 14. the circle of the sunne, then counting the 7 letters backward till I haue counted 14. places, beginning with GF thus: 1 GF. 2 E. 3 D. 4 C. 5 B A. 6 G. 7 F. 8 E. 9 D C. 10 B. 11 A. 12 G. 13 FE. 14 D. I finde that the 14 place endes vpon D. which I conclude to be the Dominicall letter for this yeere aforesayd, and that it is the first yeere after the leape yeere.

And heere is to be noted, that the Prime and Dominicall letter,

changes the firſt of day January, and the Epact the firſt day of March.

To find out the Prime.

Deuide the yéere of our Lord by 19. and to that which remaineth after the deuiſion, adde one: the product is the Prime number for all that yeare.

As for example.

I would know the Prime for this yéere 1601. deuide 1601. by 19. and you ſhall haue in the quotient 84. and after the deuiſion there reſts 5. vnto which if you adde one, it makes 6. which is the Prime for this yære of 1601.

To finde out the Epact.

Adde to the Epact of the yére paſt 11. and if it paſſe 30. take away 30. and the product is the Epact for all that yére: but otherwiſe, which is the better way, imagine thrée places vpon your hand, which for example let it be the 3. ioyntes of one of your fingers, and call or name the firſt ioynt 10. the ſecond 20. the third 30. then count the Prime number vpon the thrée ioynts aforeſaid, and going ouer them til you come to the end of the ſaid Prime number, marke vpon which ioynt your Prime ends, and adding the number of the ioynt with the Prime, if they come not to 30. that ſhall bée the Epact for all that yére: if they paſſe 30. take away 30. and the remainer is the Epact.

As for example.

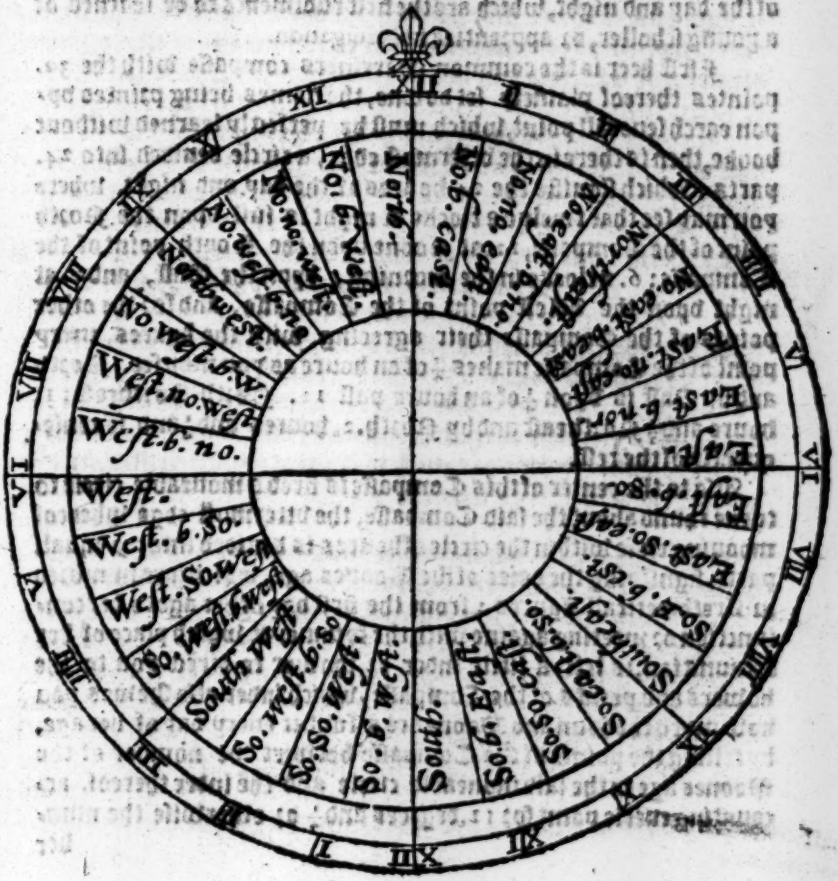
This yére 1601. the Prime is 6. and imagining the firſt ioynt of my fore finger to be 10. the ſecond 20. the third 30. I count vpon the thrée ioyntes 6. the Prime number, viz. vpon the firſt ioynt I tell 1. on the ſecond 2. on the third 3. Againe, on the firſt 4. on the ſecond 5. & on the third 6. which is the Prime ending vpon the third ioynt which I call 30. therefore adding 30. to the number of the ioynt 6. the Prime makes 36. and taking away 30. reſtes 6. which is the Epact alſo for the yére 1601.

To know the Mooneſage.

Adde to the dayes of your Month the Epact, & ſo many daies more as are months from March to the month you are in, including both

both monthes: and if they come not to 30. so much is the Moones age, but if they passe 30. take away 30. and the ouerplus is the Moones age.

¶ This is when the month hath 31. dates, but if the month hath but 30. dates, you must take away but 29 and the rest is the age as foresaid: for in those months that haue 31. dates, the Conjunction is the 30. day of her age, and in those monthes that haue 30. dates the conjunction is the 29 day of her age.



A declearation of the former Instrument.

THis instrument giues you a plaine and easy order, for the shifting of the Sunne and Moone, for euery day of her age, and also it is a ready and most necessary receiuing of the tides: whereby also is shewne the common order to bring thereby the 32. points of the Mariners Compasse to the 24. houres of the day and night, which are the first rudiments to be learned of a young scholler, or apprentice in Nauigation.

First heer is the common Mariners compasse with the 32. pointes thereof plainely set downe, the names being printed vpon each seuerall point, which must be perfectly learned without booke, then is there in the vttermost edge, a circle deuided into 24. parts: which signifie the 24 houres of the day and night, where you may see that twelue a clocke at night is iust vpon the North point of the Compasse, 12. at Noone vpon the South point of the Compasse: 6. a clocke in the morning, vpon the East, and 6. at night vpon the West point of the Compasse, and for the other points of the Compasse their agreeing with the houres, euery point of the Compasse makes $\frac{1}{4}$ of an houre as you may see. North and by East is vpon $\frac{1}{4}$ of an houre past 12. North Northeast: 1. houre and $\frac{1}{2}$ Northeast and by North. 2. houres and $\frac{1}{2}$ and so consequently of the rest.

Also to the center of this Compasse is fixed a moueable circle to turne round about the said Compasse, the vttermost edge whereof mooning close within the circle of houres is deuided into 29. equall parts, signifying the daies of the Moones age, which are numbred in Arethmeticall figures: from the first day of her age to her conjunction or meeting againe with the Sunne: at which place of her conjunction, is left a little inder or shower to direct you to the howers and points of the Compasse, which inder also shewes you how much the Sun and Moone are a sunder euery day of her age, by telling the points of the Compasse betwixt the nomber of the Moones age in the said moueable circle and the inder thereof, accounting euerie point for 11. degrees and $\frac{1}{4}$ or otherwise the num-

ber

ber of houres, contained in the vtter most circle, betwixt the said number of the Moones age and the inder, accounting euery houre for 15. degrees, shewes the degrees of distance betwixt the Sunne and Moone.

Now to keepe a reckoning of the tides thereby, you must know by the Table hereafter set for that purpose, how it flowes, that is to say, what Moone makes full Sea or high water at that place, where you would know the time of the tyde or high water for the day proposed: which knowne, you must also by the former propositions, or else by the Kallender following, know the Moones age: then seeking out the number of the Moones age in the moueable Circle, place the said number of the moones age vpon that point of the Compasse which makes full Sea vpon the change day, at your place desired, and staying it there, the inder which is in the said moueable Circle, points you directly to the point of the Compasse that the Sunne must be vpon, when it shall be high water the foresayd day, in the desired place, and also in the vttermost fixed Circle, it shewes the houre of the day which you desire.

An example.

The first of January 1601. I desire all this aforesaid: First for the moones age, because that the Epact changes not till the first of March, I adde the Epact of the last yeare, which is 25. and the day of the month 1. is 26. then January being the eleuenth month from March, makes 37. and being that January hath 31. daies, I take away 30. so there resteth 7. for the moones age the first of Januarp. 1601.

Againe, to know how much the Sunne and moone are a sunder the day aforesaid, I seeke in the moueable Circle for the moones age, which being 7. I place 7. vpon any certaine point of the Compasse, which for example heere is West, and the inder shewes the North and by West, and ¼. to the Northward, which is 7. poyntes and ¼. that multiplyed by 11 ¼. make 87. degrees for the distance betwixt the Sunne and moone, and in houres it shewes 5 ¾. which multiplyed by 15. yeildes the like being very neere ¼. of the Zodiacke.

Then for the Tydes at London Bridge, it flowes South west and

and North East, by is high water at three a cloche on the change day: therefore I place 7. (the Moones age) vpon the point South west at three a cloche, and hauing the moueable rundle there, I see that the inder shewes almost North west, which is 3 6. or there ¼. of an houre past eight of the cloche, at which time it shal be high water at London Bridge, the Moone being 7. daies olde.

Againe, at Harwiche where it flowes South and by East, the Moone 10. daies olde, I lay 10 (the Moones age) vpon the point of the Compasse South & by east, and then the inder shewes the point West north west of the Compasse, and in the circle of houres ¼. an houre past 7. which is the time of the full Sea at Harwich, the Moone being 10. daies olde.

But if you want a Table or Instrument to worke the account of the tydes, you may doe it by memory, multiplying the Moones age by 4. and deuide the product by 5. and to the quotient adde for euery vnity which remaines vpon your deuision 12. min. that totall adde to the houre that it makes full sea on vpon the change day, the product shall be your desired number, as in the first example.

The Moone 7. daies olde, and the high water at London on the change day at three of the clock, I multiply 7. (the Moones age) by 4. makes 28. that deuided by 5. the quotient is 5. and 3. remaines vpon the deuision, which 3. being so many times 12'. makes 36'. and added to 5. in the quotient, makes 5 houres 36'. that added to 3 the houre of full Sea vpon the change day, makes 8. of the cloche and 36'. as afore said.

The gouernment of the planets.

Diuers writers haue disagreed, concerning the Planitary houres, some making the houres of the Planets, equall with the houres of the clockes, and so continuing their Regiment orderly with the other common houres. Some againe, beginning the said Planitary houres at noone: some at midnight: and some againe at the Sunne rising, which indeed for the time of the beginning of the account is the best, and for the difference of the equality and inequality betweene the Planitarye houres and the common houres of the clockes, Gemma Frisius agreeing with the best Astronomers,

nomers saith, that as the dayes and nights do increase or decrease, so must the planetary houres belonger or shorter accordingly: neuertheleſſe so that there shalbe 24. planetary houres in the day and night, as well as of other houres, but that if the day consist of more thē 12. houres, then proportionally the planetary houres to consist of more then 60. minutes: and if the day be leſſe then 12. houres, then the planetary houres to be leſſe then 60. minuts: and if the day be iuſt 12. houres, then the planetary houres are equall to the houres of the clockes and not otherwiſe. The like is to be vnderstood of the nights: and to make an equality of the planetary houres to them of the clockes, being that how long soeuer the day is, yet there muſt be but 12. planetary houres: and how short soeuer the day is, there muſt (neuertheleſſe) bee 12. planetary houres: and so of the night, by which you see that the planetary houres are sometimes greater and some times leſſer then the common houres of the clockes, which always consist iuſt of 60. min. therfore if you deuide the day into 12. equall partes, and of those parts shalbe the quantity of a planetary houre: which you may do thus: multiply the houres of the day into minutes by 60. and if there be any odde minutes, ad them to the product, the totall being deuided by 12. the quotient shewes the number of minutes contained in an vnequall or planetary houre.

And againe, if at any houre of the day or night you know not what planetary houre it is, that is to say, how many planets haue ruled ſines the beginning of the day or night proposed: multiply the number of the houres paſt from sunne rising by 60. and deuide the product by the number of the minutes contained in an vnequall or planetary houre, the quotient will shew you how many houres and minutes of the Planets are paſt from the Sun rising (if it bee in the day) or from Sunne setting if it bee in the night: which knowne, enter the table following to know what Planet rules the day and houre proposed, looking for the houre desired in that Columne which is right vnder the day proposed: those Planets which are gouernours of the said houres in the day time being placed on that side next the left hand, and the gouernours of the night on the right hand.

Example.

The 17 of May being Sunday at 9. of the clocke in the morning, I would know what Planet rules. First in the following Kalender, I finde that the 17. of May the day is 16 houres long, therefore I multiply 16. houres by 60. minutes and the product is 960 that deuided by 12. brings in the quotient 80'. for the Length of a planetary houre at that time: then from 4. of the clocke (the time of the Sunnes rising) till 9. a clock, the houre proposed is 5. houres, which multiplyed by 60. brings 300. that deuided by 80. (the length of a planetary houre) brings in the quotient 3. houres and ½: so I conclude that at 9. of the clocke 3. Planets haue past their Regiment, & the 4. hath ruled ½ of his houre: therefore vnder the title Sunday in the top of the table, I looke for 4. toward the fote of the said table: against which on the left hand is placed Luna: therefore I say that the 17. of May being Sunday at 9. of the clocke in the morning, Luna shall haue raigned ½ of her houre.

Gouernors of the day.	Sunday.	Munday.	Tewsday.	Wednesday.	Thursday.	Fryday.	Saterday.	Gouernors of the night.
Sol.	1	12	9	0	10	0	11	Iupiter.
Venus.	2	0	10	0	11	1	12	Mars.
Mercury.	3	0	11	1	12	2	0	Sol.
Luna.	4	1	12	2	0	3	0	Venus.
Saturne.	5	2	0	3	0	4	1	Mercury.
Iupiter.	6	3	0	4	1	5	2	Luna
Mars.	7	4	1	5	2	6	3	Saturne.
Sol.	8	5	2	6	3	7	4	Iupiter.
Venus.	9	6	3	7	4	8	5	Mars.
Mercury.	10	7	4	8	5	9	6	Sol.
Luna.	11	8	5	9	6	10	7	Venus.
Saturne.	12	9	6	10	7	11	8	Mercury.
Iupiter.	0	10	7	11	8	12	9	Luna.
Mars.	0	11	8	12	9	0	10	Saturne.

Gentle Reader these tide tables & soundings following, are gathered out of a Duch coppy, & therfore I cannot affirme the probabilitye thereof, but if as occasion serues, you shall at any time finde any thing therin repugnant to truth, let mee in kindnes request you with a dash of your pen, eyther to mend or marke the place, and God willing if you will giue notice thereof, in the next impression it shall be amended.

A generall and compendious tide table, shewing what Moone makes full Sea or high water in all these places following. The most part whereof is taken out of a Duch Coppy the rest from the Aduertisements of diuers Mariners being well acquainted in the said places.

Full Sea on the Coastes of Iutland, Freezland, Holland and Zealand.

Pointes of the Compasse.

At the Iutlandish Ies. Before the riuers of Heuer Eder and Elue. Before the Riuer of Weser. At Enchuisen, the Ile of Vrke, before Delfe Ile and Emden and all the shores of Flanders, S. & N.
Before the Maresdeep. At Hambrough and at Antwerpe. E. & W.
Underneath Holiland. W.S.W.
At Egmont and Harlem in the Bresond and Vourd W.b.W.
Before the Casterne and Westerne entrance of the Emes or Riuer of Emden. Before all the Coast of Friseland. Before the Flye. E.
Before the Ghest of Texell. E.s.E
Upon the Flats of West Friseland and Wiering. Without the banks of Flanders, Amsterdam, Dodrecht, Zierickee Sea and Roterdam. From Harlem to the Riuer of Maes. S.W.
Before the Fen in the channell. At Horne, at Edam, before the Maes, the Ile of Gore. Before Canser or Teruer & all the Coastes of Zealand. Before the Willing. s.s.W.

Full sea on the coast of Normandy, Britaine, Gascoinge, Biscay, Galicia, Portugall and spaine.

At Blackenes and at Arnuy.
At the Sammekins and Campher. } s.s.W.

At Boleine, Deepe, seinehead or the South of seine Riuer. s.s.E.
Within the Fosse of Caen. at S. Iohn de Iuze. s.s.E.
Within the Seine, before the Caskeues, before Garnsey. s.E.
Before the Hauen of Caen. s.& b.E.
Before Cherbrough and the Rase of Blanquert. s.& N.
At the Ile of Garnsey within before S. Poule W.& b.s.
At Concallo S. Malo, in the Bay before S. Poule, without Vshant, and before Burdeaux. E.& W.
On all the Coast of Britaine, Poictow and Gascoigne. s.W.
Before the Killiates, & Porthuise, & before the Riuer of Burdeaux, all alongst from the Race to the Polehead. S.W.
Before the Riuer of Nants, and before the Bay. s.W.
On all the Coast of Biscay, Galizia, Portugall and spaine. s.W.
At S. Mathews point, and at Fonmew. s.W.b.s.
At the Forland, and at the May. s.W.b.s.
At S. Lucas, at Lisborne, at Callis Mallis, and before the Condado. s.W.b.s.
In the Bay within Vshant at the sept-Iles, at Calice in the Creeke. W.s.W.
Within the Riuer of Roan, and from the Pole head of Burdeaux, till you come to the forland of Fountaines. Before Brouage in the Riuer. within all the Hauens aforesaid. s.W.b.W.

Full sea on the coastes of England, Scotland, and Ireland.

AT Barwicke and alongst the shingles or Nes point, s.s.W.
At the Staples it flowes ½ tide. N.E.b.N.
At Huncliffoore ¼ tide. N.Eb.E.
At Flamborowhead it flowes quarter tide. E.N.E
At the Spourne it flowes quarter tide. E.b.N.
At Tinmouth before the Riuer of Newcastle quarter tide. s.W.
Before Whitebay and Robinhoodes bay. s.W.
Before Hartlepole or the Riuer of Tees mouth. s.W.
At Scarbrough it flowes ¼ tide. W.s.W.
At Hull within the Riuer of Humber ½ tide, and before the Hauen of Lin ½ tide. E.& W.

Before

Before Humbers Mouth in the Sea. N.W.
At Burnham and Blackeney ½ tide. E & W.
Before Cromer, Winterton and Yarmouth ½ tide. N.E.
At Yarmouth and Leistow ½ tide. S.W.B.
At Orford and Harwitch. S.b.E.
On the out side of Harwitch bankes. S.S.E.
Before Margate and the Thames Mouth. S.b.E.
At the south Forland, and Douer. S.S E.
Hampton Kay, the Spittes, and along the Swine. S & N
In the downes before Sandwich ½ tide. S.S.E.
Betweene Tinmouth and Flamborough head. S.W.
Betwene Flamborough head and Bridlington bay. S.W.b.W.
Betwene Bridlington and Lawrenas. W.S.W.
Betwene Lawrenas and Cromer along the Well. E.& N.
Betwene Cromer, and Yarmouth rode, to Laisto North rode. S.E.
Betwene Laisto rode, and Orford nes. S.E.b.S.
Betweene Orford and Orwell Manes. S.S.E.
Betwene the Naze & the ware head of Colne. S.b.E.
At the West end of the Nore. S.b.W.
On the West end of wight, and at Grauesend. S.S.W.
At London and in the midst of the Reaches or straights. S.W.
At the North Forland and along the Coast to Beachy. S.S.E.

And in the Offing from the North Forland to the South Forland, it runneth ½ tide, and from the South Forland to the Naze the tide runneth halfe tide and halfe quarter tide, & from the naze to Fairely it runneth halfe tide, and from Fairely to Beachy it runneth quarter tide vnder other.

Within the Camber before winchelsey, and at Blacktaile. S.b.W.
Before the Ile of wight and Porchmouth. S.b.E.
By Portland in the Channell, and saint Aliens. S.S.E.
Within the Raie of Portland, at Poole in the Hauen, at the Hopchead, and thwart of Plimouth and Dartmouth, and all betwene that & Portland in the midst of the Channell. S.S.E. & N.W.

Before the Start point in the Channell, and also before Foy in the same Channel, at and winterton, and at Mouschole & Falmouth,

5. Leagues of the shore, at the Lizard to the shore, and from thence to the Lands end. E.s.E

Within Torbay and Dartmouth, within Plimouth and Foy, at the spourne, in the Bay of Carmarthen, at the Mouth of seuerne without in the Channell, at the Monelesse and frō the Lizard to the sorlings. W.b.s.

Before the sorlings or silly in the Channell. E.& W.

Within the Iles of silly or sorlings. N.E.b.E.

Within Mountsbay and in the Sea of wales & seuerne. W.s.W.

At Lundy and at the Homes of Bristowe & at waiemouth. E.& w.

Within Bristow to the shore, and at Foulnes. E.b s.

At Caldy and Milforde. w.& b s.

At waterford and all on the Sea Coastes of Ireland. w.s.w.

At Dagger and shield. E.& w.

At the shooe. s.& N.

In the Camber of Rye. s.b E.

At the East end of wight without in the Sea. s.b.E.

And it is to be noted, that the Floud sets in at the East end of wight till as.E. Noone. In the Road at Dungenesse s.E. but without in the Channell a s.w. Noone full sea.

In the Sleeue betweene silly and Vshant. s.& N.

From the seames and in the broad sownd betweene it and Vshant the floud runneth. E.N.E.& w.s.w.

Ebbes, or falling of tides, alongst the Coast of Friezeland, Holland, Zealand and Flanders.

FRom Holyland to Borniffe the Floud falleth a quarter tide thwart towards the Land, and thence: E.N.E.

From Borniffe to the Hookes of Texell, the floud falleth quarter tide thwart towards the Land, & the rest of the tide falleth. N.E.

From the Hookes to the Maze, it falleth quarter tide towards the Land and the rest of the tide. N.N.E.

From the Maze to the Caybancke it falleth the third part of the tide

tide towards the Land, and the reſt. N.E.

From Caybanke to the Bankes of Flanders, it falleth halfe tide towards the Land, then it turneth round with the Moone, and falleth the other quarter. E.N.E.

Alongſt Flanders Coaſt within the Bankes it falleth a third part towards the Land, and the reſt. N.E.b.E.

Without the ſaid Banke it turneth about with the Moone: the other halfe falleth. N.E.

Before Graueling and Callis; part of the tide falleth towards the Land: the reſt falleth. N E.b.E.

Falling of floudes and tides, alongſt the North Coaſtes of Scotland and England.

FRom the Iles of Orchades vnto Leeth in ſcotland, the Flood falleth alongſt the ſhoare. S. & N.

From Leeth to Tweed or the Riuer of Barwicke, it falles. S.S.E.

From the Tweed to Flamboroughead. S.E.b.E.

From Flamborow to the Riuer of Humber. S.S.E.

From Humber vnto Cromer. S.E.

From Cromer vnto Yarmouth. S.S.E.

From Yarmouth to Leſtoffe at the end of the Holmes. S.S.E.

From Leſtoffe to Orford Hauen. S. & N.

From Orford hauen within the bancke called the ſpittes, vp alongſt the Coaſt to the Thames. S. & N.

Neere the Forland within and before Margate and ſo towards the Reculuers, it falleth. E. & W.

At the Forland on the inſide of the Goodwin. S. & N.

From Orford hauen to Douer in the right Courſe. S.b E.

And moreouer about 4 Leagues N E.b E From the Forland, lieth a banke called Galper, to which bank the floudes fal frō the N. & S. alongſt the Coaſt of England where they mete, & then fall together with a great whurling & noyſe ouer the ſaid banke towards the Coaſt of Flanders & therefore is that banke called the Galper.

Alſo

Also in the North Sea betwene the Riffe, & the White sande, the Flood turnes with the Moone making a strong tide there abouts, as likewise vpon the shold called brood Verthien.

And in the right Course betwene Holland and England the streame turneth with the Moone and falleth halfe tide to the seawards.

The falling of tides, and floudes alongst the West Coastes of England, and Ireland.

In the midst of the heads or straights betwene Douer and Callice the flood falleth.	N.E.b N.
From the Nes point vnto Beachy it falleth.	E.N E.
Before the 7. Cliffes of Beachy it falleth.	E.b.S.
From Beachy to the Ile of wight.	E.b N.
From the Ile of wight vnto Portland.	E.b N.
From Portland to the start Point.	E.N.E.
And at Portland into the Bay it falles.	N.E.
Before Exmouth 2. Le. from the Land.	N.N.E.
Before Dartmouth on the Land it falleth.	N.E b N.
From the Start point alongst the Coast to Plimmouth	E.S.E.
From Ramhead point to Dodman point.	E.N E.
From Dodman point vnto Lizard point.	N.E.
In the Channell before Foy it falleth.	E.b.N.
From the Lizard to the Lands end	E.S.E.
From the Lizard to the Sorlings.	E.b.N.
From the end of Ireland to cape Declere.	E.b.N.
From Dorsey to the Ile of Blackney.	N.N.W.
From Cape cleere, to Waterford the Flood falleth.	E.N.E.
From the Iles of Silly, to the Ile of Lundy.	N.E.
From the Ile of Lundy to the Holmes of Bristow.	E.N.E.
Into the Channell of Bristow it falleth.	E N.E.
From Milford Hauen to the Ile of Romsey	N.E.
In the Channell of Lundy it falleth.	N.E.b.E.
Betwene Lundy and Milford it falleth.	E.b.N.

The

The falling of tides and floudes, alongst the Coastes of Fraunce and Britaine.

From Blackeney, to the Oldeman, & frō Bulleine to Staples, s.b w
From Staples to Deep, & frō Deep to Cane in Normandy, s.w.b s.
From sainchead vnto Derley it falleth. W.s.W.
From the struisart, vnto Deepe it falleth. N.E.bE.
From Derly to Cape dela Hague it falles. s.s.E.
From Cape de la Hague to Aldernay, and in the Rase of Blanquert. N.E.
From Derley to the Caskets it falleth. E.& W.
From Garnsey to the Caskets it falleth quarter tide E.s.E. and the rest. N.E.
At the Sept-Iles, & from the Sept-Iles to s. Pole along ẏ shoze. E.b s
From S. Pole to the Fourne, and from thence to S. Mathewes point. s.b.E.
In the Bresont betweene Vshant and the seames. E.N.E.
In the Race of Fountoey the Floud falleth thwart ouer the Rocke called the Empresse and maketh a very great noyse and rumbling on the banke called the Calfe.
Also vpon all the Coastes of Poictou, Gascoine, Biscay, Galizia, Portugall and spaine it falleth alwaies right of and on, to and fro.

The Depths and soundings, neare diuers Prouinces. And first of Gascoine, Poictou, and Britaine.

VVIthout the Riuer of Burdeaux there is 14. fatham depth, but when you come within sight of Cordam to wze, but 30. fatham.

Ouer against the Coast of Poictou 16. Leagues without Oleron you haue 25. fatham, but comming neare the Land 8. Leag. from the shoze, you haue 35 fatham: In the Channell betweene

Porthuis and Heys it is 30. fatham, and as much in the Channell of Heys, as also betweene Heys and Belile: without the Channell is 35 fatham, but within 25 without Heys two kennings off, there is found 45. fatham.

Twenty two Leagues Southward of belile is 70. fatham, but 9 leagues from the Northwest point of that Iland, towards the Southwest is 60. fatham, and ouer against the midst of belile in 40. fatham depth you shall see land. In your course betweene belile and the seames, you may come no nearer then 50. or 45. Fatham, if you sayle from belile west and by North: when you are against Gloyland you shall finde 60. fatham depth without, and within the Rocke which standes off Gloyland to the Seawardes you haue 40. fatham water, in 65. fatham depth, without the west Penmarkes you may saile North west by west without the seames, but by night come no nearer then in 55. fatham, for the ground is grose and red sand full of round flints, halfe a Lea. W. S. W. of the seames is a ledge of rockes, where you haue 7 fatham depth, but betweene the seames and the Rocke is 50 fatham.

In the Channell betweene the seames and Vshant is 55 fatham depth. the ground is grose and red sand, with little round stones red and blacke: Neere to Vshant is 45. fatham, but within it is of a variable depth. South west almost 6 Lea. of Vshant you haue 70 fatham, and the ground is fine white sand, with little white shelles, and other small thinges like needles, and then is Vshant East from you: but if the sand bee grose and white, mingled with great and white shelles, then it is South East to you: but if you doubt of these grounds, go Northerly: if your sound be deeper, then are you towards the seames, but if not so deepe, then are you in the Channell almost North of Vshant.

Betweene Vshant and Obeuracke in the trade, it is 60 fatham depth. Betweene Vshant and the forlings in the midst of the Channell there is 70. fatham: betweene the seames and Vshant in 70. fatham water, the ground is of little blacke stones easie to be broken and of yellow earth or clay: but if you finde red and hard sand, goe Northward till you happen on white sand mingled with long streakes, and then you are in the channell.

7.

If from Cizarga you saile N. N. E. in the Spanish Seas towards Vshant, and finde your selfe in 80 fatham, you are 14. or 15. Leagues off Vshant, but comming nérer you shal haue 70. fatham water and be 10. Leagues from Vshant, but if you find the ground to be yellow shelles, and little blacke stones, then are you toward the seames, therfore you must (with the tyde) beare of Northward to shun Vshant vntil you finde white sand, and things like nédles, for such are the grounds of the Channell.

Betwéene Vshant and the Ile of base, when you saile at foure fatham water, you are 4. Leagues of the shoare, but by night come no nére then 25. fatham: when you are 2 Leagues of Obeurack you shall finde 25 fatham depth, but 8. Leagues of the sept-Ilands you haue 55. fatham.

A League without the rockes of Obeurack, there is a blinde or hidden rocke, so that if you are to saile vpon a boord betwéene the Fournes and Obeurack, come no nére that blind rocke then 40 Fatham, but Eastward you may saile in 30 or 25. fatham.

If a ship sayling W. by N. W. and by W. by W. of silly, at 80 Fatham water, be found to be vnder 49. degrees 15. minutes of Altytude, she is 26 Leagues from land, and must goe E. by N. till shee get 66. fatham water, for then she is in the channell betwéene silly and Vshant, and then if she be bound for England, shee must sayle more Northward, and betwéene the lands end and the Lizard she shall haue 55. Fatham depth.

The soundings and grounds betweene Ireland, England and Normandy.

THrée Leagues without the Ile of Dorsey nére Ireland, it is 45 Fatham déepe: in the Channell betwéene Dorsey and Cape Cleare is 42. or 43. Fatham: the Channell from Cape cleare to saltees hath 45. fatham: but 2. leagues off Ireland it hath but 40. betwéene saltees and Milford it is 44. fatham déepe, and betwéene Lundy and silly 38. fatham, in the midway betwéene silly and Milford it is 44. but North of silly 40. and 42. Foure England

by the Lands end, the channell is of 70. fatham depth.

Comming from Cape Finistere saying N. N. E. if you haue 80. fatham, you are 20. Leag. off the shoare, and the ground is small blacke stones with great red sand: in the same course, when you haue but 60. Fatham, you are within 12. or 14. leag. of the shoare, but shall not so soone ken land as you thinke for: you shall a great while haue 60. fatham, being at the N parts of the channel about Silly: betwæne Vshant & Silly the channell is 70 fath: on the S. side of Silly the ground is small red stones, and fine white sand: Ouer against the Lizard and Falmouth 4. leag. from shoare is 52. fath. betwixt Foy & Plimouth sound in the channell nigheſt, is 60. fath. betwæn the Lizard & the start, beare no nérer the shoare then 35. fath. you may cast anker in the trade or channell in 25. fath. & so shal you lye within the Foreland streame: betwæn Plimouth & the sept-Iles in the midst of the channel is 55. fath. but 4. Le. S. S. W. of Plimouth it is but 35. fath. S. S. E. of the midland of the start is 45. fath: but from thence 5. or 6. lea. S. E. is 54. fath. in the channel betwæn the Caskettes & Portland is 40. fath. & a lea. N. of the Ile of Aldernay is a hole or pit 80. fath. deep: all the rest of the channell betwæne Portland & Aldernay is of equall depth viz. 40. fath: when you are within kenning of portland, your sounding is 34. fatham: and 3. leagues of Wight 36 Fatham: also 2. leagues Eastward of Beachy (betwæne picardy and Wight) the Channel in the midst is 38. Fatham: betwæne Winchelsey and picardy 24. Fatham, the shoalds betwæne the heads called the Vrowen-sand hath but 3. Fatham & a halfe, but on the south side of it is 24. Fatham: and in all the fayre way betwæne Zealand and Douer it is 24. Fatham deepe.

Depths of the North Sea from the Foreland.

IN the Channell from Englands Foreland, and sandes of Flanders, you haue 24. Fatham deepe, but 3. Lea. N. W. by W. of the country of Zierickze called Botbrecke it hath but 4. fatham depth: without this shoald the channel of Zealand is 26. Fath. N. W. of

Harlem

Harlem 8.02 9.myles within the ſea, there beginneth a ſhelfe called de breed verthien, reaching alongſt the coaſt of Holland to the plaine of Ameland, where it endeth: ouer againſt Harlem and Egmond is 13.14.02 15. Fatham, and the ground is full of oaſe mingled with blacke ſand like muſtard ſeede: the ſaid ſhelfe hath 15. 16.02 17. Fatham depth: betweene Texell and Vlyeland where the ground is groſe red ſand, 6.02 7. leagues from the ſhoare, for there the ſhoald is narrower then it is towardes the South ende of the channell: without the ſhoald betweene Zealand and Texell is 26. Fatham deepe, as farre as the ſhoald which the Fiſhers call Dogſant. In the Channell on England ſide, ouer against Yarmouth is 32. Fatham, but againſt Flamborough and ſcarborough point 38. Fath. whereas the white ſhelfe called Dogſant beginneth, reaching into the North ſeas to the Channell of Helichland: this ſhoald where it is within kenning of Flamborough point, hath but 9. 02 10. Fath. but when in the ſame ſand you finde 12. Fatham, then Texell is from you South Eaſt almoſt 30. Leagues, but when you are come to 16. Fatham, then are you within 21. Leagues S. S. E. of Vlyeland.

A ſhip that comes from the riffe finding 18. Fath. depth on the aforeſaid ſand, is then 20. Le. S. by E. of Vlyeland, but at 22. Fatham muſt then ſayle to wardes the Vlye S. by W. and S. S. W. but if in the Channell of Helichland 24. 02 26. fatham bee found, then muſt you ſaile S. W. and S. W. by S. and then are you come to the ſchellingh: but if in Helichland ſound you haue 27. fath. then are you altogether to the Eaſtward of it: betweene the Riffe & the Doggerſant the Channell is 26. fatham, without the Channell Weſt ward it is 32. fatham deepe.

A ſhip that comes out of the Engliſh ſtraights, or out of Zealand, hauing at the Riffe 24. fatham, is from the Naes in Norway 18. Leagues N. by E. but hauing 20. fatham is 16 leagues from it N. and finding but 18. fatham, is then 18 leagues of it N. by W. the courſe from thence to the Holmes is 12. leagues N. by E. from thence to the point of Scakghens 18 leagues N. E. by E. there is a rocke of one fatham depth N. E. and N. E. by E. of the Holmes, 2. leagues from the ſhoare.

Depths

Depths neere Iutland and Ameland.

In the Sea without Iutland, a mile from Dodenberg, is a banke called Reefehorne, stretching out 8. Leag. W. by S. in some places but 3. fatham deepe, and in some places may be sailed ouer, and become a roade, for a N. W. and a N. winde, in 20. fatham: from Ameland towards the sea the ground is grose sand, red and black, mingled with shelles: thence southwards in 16. fatham, sayling 3. houres, you shall come to the smooth Sea of Ameland, where the ground is fine sand with shelles: North from schelingh in 24. fatham is fine white sand, and in 18. fatham white and blacke sand mingled. Vlyeland hath white sand with shelles, and thin blacke sand, in streténe fatham depth. From the West end of Vlieland is great and red sand mingled with blacke, like vnto Mustard-seede. About fiue or seauen leagues from shore, at the East end of Schellingh to Seawards, at eighténe fatham is fine white sand, mingled with blacke, hauing in it things like néedles. Ouer against Borcke in the Westerne Ems, at 17. or 18. Fatham depth land may be séene, the ground is grose granelly sand: at 14. fatham may Ameland bee kend, but schellingh at 16. and Vlyeland at 15. or 16. fatham water. At the North Hooke of Texel land may be séene at 16. Fatham: Holland at 14. or 15. when you saile within the shoald called the Breduerthien which beginneth N. W. of Harlem, and stretcheth alongst the coast of Holland, to the W. end of Vlyeland, and is 7. or 8. Leagues from the shoare.

Soundings and grounds neere the Schaw.

A Great Lea. W. by N. from the schaw is 35. fatham depth, N. N. E. a great Lea. off the corner of this point is 38. Fatham, and when the point is N. W. from you, then you haue 17. fatham. Betwéene this point and Leson, the Channell is 20. fa. deepe, & the ground like clay or durt: betwixt Anhaut and Waersberg in the midst of the channell is 22. fatham water: betwéene Leson & Anhout

hout the ground is fine and stonye: nere Waersberg is a shoald of 17. fatham depth: betweene Anhout and Cel is another shoald of 17. Fatham, where sometimes it is troublesome like a whirlepoole.

Depths of the Easterne seas.

BEtweene Oreland and Gothland, the soundinges are unequall, sometimes of 20. somtimes of 23. Fatham, the ground grose and black stony sand like Pease: when the S. end of Oreland is 2 Lea. from you westwards you haue 27. fatham, where also you may gadge water, but when the Chappel in sudernoorden beareth W. N. W. of you, then haue you 31. fatham, and ground fit to gadge water: ouer against the Rocke in the faire way is 52. Fatham, and a clay ground, but fit for gaging: betweene the greater and lesser Carla is 14. fatham, under which is safe roade for ships: there is a shoald betweene Houburg and Ostergard 24 fath. depth, the ground great red sand, but hardly from thence can you kenne Gothland out of the top: there is also to the Eastward another shoald of 36. fatham, which when you are past, you haue more then 40. fatham water, when the point of righ is 3. Leagues S. E. from you, then haue you 30. fatham, but when it is from you halfe a League S. S. E. you haue but 15. fatham, the ground is white sand, but when it beareth West a small League from you, then you shall finde 16. fatham: ouer against Heel halfe a Leag. from the shoare it is almost 3. Fatham deepe: the roade for ships at Heell hath 25. Fatham depth: betweene Moan and Falsterborn is 14. Fatham depth: betweene sted and Falsterborne in the very Channell it is but 12. Fatham deepe: nere Falsterborne it is full of shoalds, but nere sted you haue 13. Fatham water: betweene Drakenstiff and sourholmen which is more shoaldy, there is 5. Fatham wanting two foote, from thence toward the sound it is sometime deeper, as 6. 7. 8. 9. or 10. Fatham.

Such

Such Eclipſes of the Sunne and Moone as ſhall happen from the yeare 1601, to the yeare 1610. with the day and houre thereof, as alſo the time of continuance: according to *Eoeuary*.

1601. There is an Eclipſe of the Moone the 29. of November at 5. a clocke & 39'. afternoone, being darkned 10. points, the continuance is an houre and a halfe.

Alſo the 14. of December 30'. after noone, the ſunne is Eclipſed 10. parts and a halfe, the continuance one houre 10'.

1602. Moone Eclipſed the 25. of May, at 6. a clocke & 30'. after noone, points Eclipſed 19. continuance one houre 4'.

Another Eclipſe of the Moone the 19. of November, at 8. a clock 45. min. in the morning, points Eclipſed 19. continuance 1. hou. 5'.

1603 Moone Eclipſed the 14. of May, at 11. a clock 30'. at night, points Eclipſed 8. continuance one houre 27'.

Another Eclipſe of the Moone the 8. of November at 6, a clock 4'. in the morning, points Eclipſed 2. continuance 54'.

1604 Is no Eclipſe at all.

1605 Moone Eclipſed the 24. of March, at 8. a clocke at night, points Eclipſed 11. continuance one houre 38'.

Another of the Moone the 17 of September at 4 a clock in the morning, points Eclipſed 8. continuance one houre 27'.

Alſo an Eclipſe of the Sunne the 2 of October, at one & 30'. after noone, points Eclipſed 11. continuance one houre.

1606 No Eclipſe at all.

1607 Moone Eclipſed the 27 of September at 2. and 40. mi. in the morning, points Eclipſed 4. continuance one houre 9 min.

1608 An Eclipſe of the Sunne the 31. of July, at 3. and 30. mi. after noone, points Eclipſed 4. continuance 48. min.

1609 Moone Eclipſed the 10. of January, at 2. in the morning, points Eclipſed 8. continuance one houre 30. min.

Moone Eclipſed the 6. of July, at 11. and 32. mi. at night, points Eclipſed 16. continuance one houre 10. min.

1610 Moone Eclipſed the 26. of June, at 4. & 11. min. in the morning, points Eclipſed 10. continuance one houre 38. min.

Another of the Moone the 20. of December, at 3. & 9. min. in the morning, points Eclipſed 6. continuance one houre 16. min.

Heere

Heereafter followeth a most excellent, necessary and compendious Kallender, shewing the Prime, Epact, Dominicall Letter, Leape yeares, and moueable Feastes, for 24 yeares to come: Inclusiuely comprehending therewith, the true day and houre of the Moones Coniunction or Change, for 19. yeares to come: with the true place of the Sunne, and his Declination from the Equinoctiall, both Northwards and southwards, vpon euery degree thereof, throughe the 12. moothes of the yeare.

Yeare of our Lord.	Prime.	Epact.	Sunday Letter.	First Sun. day in Lent.	Easter day.	Ascenti. day.	Whitsun day.	Trinity sunday
1601	6	6	D	March 1	Apri. 12	May. 21	May. 31	Iune. 7
1602	7	17	C	Febr 24	4	13	May. 23	May. 30
1603	8	28	B	Mar. 13	24	Iune. 2	Iune. 12	Iune. 19
1604	9	9	A G	Febr. 25	8	May. 17	May. 27	3
1605	10	20	F	17	Mar. 31	9	19	May. 26
1606	11	1	E	Marc. 9	Apri. 20	29	Iune. 8	Iune. 15
1607	12	12	D	Febr. 22	5	14	May. 24	May. 31
1608	13	23	C B	14	Mar. 27	5	15	22
1609	14	4	A	March 5	Apri. 16	25	Iune. 4	Iune. 11
1610	15	15	G	Febr. 25	8	17	May. 27	3
1611	16	26	F	10	Mar. 24	2	12	May. 19
1612	17	7	E D	Marc. 1	Apri. 12	21	31	Iune. 17
1613	18	18	C	Febr. 21	4	13	23	May. 30
1614	19	29	B	Mar. 13	24	Iune. 2	Iune. 12	Iune. 19
1615	1	11	A	Febr. 26	9	May. 18	May. 28	4
1616	2	22	G F	18	Mar. 31	9	19	May. 26
1617	3	3	E	Marc. 9	Apri. 20	29	Iune. 8	Iune. 15
1618	4	14	D	Febr. 22	5	14	May. 24	May. 31
1619	5	25	C	14	Mar. 28	6	16	23
1620	6	6	B A	Marc. 5	Apri. 16	25	Iune. 4	Iune. 11
1621	7	17	G	Febr. 18	Aprill. 1	10	May. 20	May. 27
1622	8	28	F	Marc. 10	21	30	Iune. 9	Iune. 16
1623	9	9	E	2	13	22	1	8
1624	10	20	D C	Febr. 15	Mar. 28	6	May. 16	May. 23

The Epacte				Len: of the day	Declination and true place ☉. in ♈. 1601			☉. in ♈. 1602.		
			Fast.	h. m.	D. M.	D. M.		D. M.	D. M.	
	1	A	New.	7 52	1 21 4	21 49		1 20 49	21 51	
5. viii	2	B	yeeres d	7 54	2 22 6	21 39		2 21 50	21 42	
	3	C		7 58	3 23 7	21 29		3 22 51	21 32	
xvi. 4	4	D		8 0	4 24 8	21 18		4 23 52	21 22	
	5	E	Fast.	8 4	5 25 9	21 8		5 24 54	21 10	
7. v.	6	F	twelfe	8 6	6 26 10	20 56		6 25 55	20 58	
xiii. 2	7	G	day.	8 9	7 27 11	20 44		7 26 56	20 48	
ii.	8	A	Lucian.	8 12	8 28 12	20 33		8 27 57	20 37	
5. x	9	B		8 15	9 29 14	20 20		9 28 58	20 24	
	10	C		8 18	10 ♒ 15	20 7		10 29 59	20 11	
xviii	11	D		8 21	11 1 16	19 54	South Declination.	11 1 ♒ 0	19 58	
	12	E		8 24	12 2 17	19 41		12 2 1	19 44	
4. vii	13	F	Hillary	8 30	13 3 18	19 26		13 3 2	19 30	
	14	G		8 33	14 4 19	19 12		14 4 3	19 16	
xv.	15	A		8 36	15 5 20	18 58		15 5 4	19 1	
iiii. 3	16	B		8 40	16 6 21	18 42		16 6 5	18 46	
xii. 10	17	C		8 43	17 7 22	18 27		17 7 6	18 31	
	18	D		8 46	18 8 23	18 11		18 8 7	18 16	
1. i.	19	E		8 49	19 9 24	17 55		19 9 8	18 0	
	20	F	Fabian	8 53	20 10 25	17 38		20 10 9	17 44	
10. ix	21	G	Agnes	8 55	21 11 26	17 21		21 11 10	17 26	
xvii	22	A	Vincent	8 58	22 12 27	17 5		22 12 11	17 10	
	23	B		9 0	23 13 28	16 47		23 13 12	16 53	
8. vi	24	C		9 2	24 14 28	16 30		24 14 13	16 36	
xiii. 3	25	D	Conuer.	9 4	25 15 29	16 13		25 15 14	16 17	
iii. 10	26	E	of paule.	9 6	26 16 30	15 54		26 16 15	16 0	
	27	F		9 9	27 17 31	15 36		27 17 15	15 42	
5. xi	28	G		9 12	28 18 32	15 17		28 18 15	15 23	
	29	A		9 15	29 19 33	14 58		29 19 16	15 4	
5. xix	30	B		9 18	30 20 34	14 40		30 20 17	14 45	
	31	C		9 21	31 21 34	14 21		31 21 18	14 25	

	of the Suñe.							
	☉ in ♈. 1603.					☉ in ♈. 1604.			
	D.	M.	D.	M.	South Declination.	D.	M.	D.	M.
1	20	34	21	53		1	20	19	21	55
2	21	35	21	44		2	21	20	21	46
3	22	36	21	35		3	22	21	21	37
4	23	37	21	24		4	23	22	21	27
5	24	38	21	13		5	24	23	21	17
6	25	40	21	3		6	25	25	21	5
7	26	41	20	51		7	26	26	20	54
8	27	42	20	39		8	27	27	20	42
9	28	43	20	26		9	28	28	20	30
10	29	44	20	14		10	29	29	20	18
11	♉	45	20	0		11	♉	30	20	4
12	1	46	19	49		12	1	31	19	52
13	2	47	19	34		13	2	32	19	38
14	3	48	19	20		14	3	33	19	24
15	4	49	19	6		15	4	34	19	10
16	5	50	18	51		16	5	35	18	54
17	6	51	18	36		17	6	36	18	40
18	7	52	18	20		18	7	37	18	24
19	8	53	18	3		19	8	38	18	8
20	9	54	17	48		20	9	39	17	52
21	10	55	17	31		21	10	40	17	36
22	11	56	17	13		22	11	41	17	17
23	12	57	16	58		23	12	42	17	2
24	13	58	16	40		24	13	43	16	45
25	14	59	16	21		25	14	44	16	27
26	15	59	16	3		26	15	44	16	7
27	17	0	15	46		27	16	45	15	51
28	18	1	15	27		28	17	46	15	31
29	19	2	15	9		29	18	47	15	13
30	20	3	14	50		30	19	48	14	54
31	21	4	14	30		31	20	48	14	35

Certaine of the most notable Fixed Stars of the 1. 2. & 3. bignes, their Longit. & Declination, with theyr being vpon the Meridian in the night, throughout the yeare, whereby you may readily finde when any of them are in rule for obseruation.

1

The Whales backe, a star of the 3 bignes, whose Lon. is 6. de. 25′. of ♈. De. 12. 26′. southward, is vpon the Meridian this month at 5. in the euening, in August at 3. in the morn. in Sep. at 1. mo. in Oct. at 11 C. in No. at 9 C. in Dec. at 7 C. al the rest of the monthes it is vpon the Meridian in the day.

2

The wing or the haunch of Pegasus of the 2 bignes, Lo. 3. 35′. of ♈. Decli. 12. 30′. north, is vpon the Me. this month at 5. C. in Aug. at 3 M. in Sep at 1. Mo. in Octo. at 11. C. in Novem. at 9 C. in Dece. at 7. C.

3

Andromedaes head of the 2 bignes, Lon. 9. 15′. of ♈. Decl. 26. 0′. Nor. is vpon the Meridian about the same time that the 2. former are.

February hath 28. dayes.

The Prime				Len. of the day	Declination and true place ☉. in ♒. 1601.			☉. in ♒. 1602.		
				h. m.		D. M.	D. M.		D. M.	D. M.
8. viii	1	D	Fast.	9 30	1	22 34	14 1	1	22 18	14 6
	2	E	Purifica.	9 33	2	23 35	13 40	2	23 19	13 46
5. xvi	3	F	of Mary.	9 37	3	24 36	13 20	3	24 20	13 25
v. 5	4	G		9 41	4	25 36	13 0	4	25 20	13 5
xiii. 11	5	A	Agathe.	9 45	5	26 37	12 40	5	26 21	12 45
3. ii.	6	B		9 50	6	27 38	12 19	6	27 21	12 25
x. 10.	7	C		9 54	7	28 38	11 58	7	28 22	12 4
	8	D		9 58	8	29 39	11 37	8	29 23	11 42
	9	E		10 2	9	♓ 39	11 16	9	♓ 23	11 21
4 xviii	10	F		10 6	10	1 39	10 55	10	1 23	11 0
	11	G		10 9	11	2 40	10 33	11	2 24	10 38
11. vii	12	A		10 12	12	3 40	10 11	12	3 24	10 16
xv. 3	13	B		10 15	13	4 40	9 49	13	4 25	9 51
	14	C	Valenti.	10 18	14	5 41	9 27	14	5 25	9 32
11. iiii	15	D		10 22	15	6 41	9 5	15	6 25	9 10
4 xii	16	E		10 26	16	7 41	8 42	16	7 26	8 48
	17	F		10 30	17	8 41	8 20	17	8 26	8 25
9. i.	18	G		10 34	18	9 41	7 57	18	9 26	8 2
ix. 8.	19	A		10 37	19	10 41	7 35	19	10 26	7 40
	20	B		10 40	20	11 41	7 12	20	11 26	7 17
7. xvii	21	C		10 46	21	12 41	6 49	21	12 26	6 54
vi. 5	22	D		10 50	22	13 41	6 26	22	13 26	6 31
	23	E	Fast.	10 54	23	14 41	6 3	23	14 27	6 8
10 xiii	24	F	Mathias,	10 58	24	15 41	5 40	24	15 27	5 45
3. iii.	25	G	When it is	11 2	25	16 41	5 17	25	16 27	5 22
xi. 8.	26	A	leape yeare	11 7	26	17 41	4 53	26	17 26	4 58
	27	B	February	11 12	27	18 41	4 30	27	18 26	4 35
	28	C	hath 29.	11 16	28	19 41	4 6	28	19 26	4 11
10. xix	29		daies, and then is S. Mathias the 25. da							

South Declination.

of the Sunne.

	☉ in ♒. 1603		☉ in ♒. 1604	
	D. M.	D. M.	D. M.	D. M.
1	22 4	14 41	21 49	14 16
2	23 5	13 51	22 49	13 56
3	24 5	13 30	23 50	13 36
4	25 6	13 10	24 51	13 15
5	26 6	12 50	25 52	12 55
6	27 7	12 30	26 53	12 34
7	28 8	12 9	27 53	12 13
8	29 8	11 48	28 54	11 52
9	0 ♓ 9	11 26	29 54	11 31
10	1 9	11 5	0 ♓ 54	11 10
11	2 9	10 43	1 54	10 48
12	3 10	10 22	2 55	10 27
13	4 10	10 0	3 55	10 5
14	5 10	9 38	4 55	9 42
15	6 11	9 16	5 55	9 20
16	7 11	8 54	6 56	8 58
17	8 11	8 31	7 56	8 36
18	9 11	8 8	8 56	8 13
19	10 12	7 46	9 56	7 51
20	11 12	7 23	10 56	7 28
21	12 12	7 0	11 57	7 5
22	13 12	6 36	12 57	6 42
23	14 12	6 13	13 57	6 19
24	15 12	5 50	14 57	5 56
25	16 12	5 27	15 57	5 33
26	17 12	5 3	16 57	5 9
27	18 12	4 40	17 56	4 46
28	19 12	4 16	18 56	4 23
			29 19 56	4 0

South Declination.

4

The Whales belly of the 3 bignes, Lo. 16. 25'. ♈. Decl. 12. 20'. south, is vpon the Peric. in Janu. at 30'. past 5 ☾. in Au. at 3 ☽. in Sep. at 1 ☽ in Octo. at 11 ☾. in Nouem. at 9 ☾. in Decem. at 7 in the euening.

5

The Rammes horne of the 3 bignes, Long 28. 5'. of ♈. Decl. 17. 18'. Nor. vpon the Per. in Ja. at 6 ☾. in Fe. at 4. ☾. in Au. at 4 ☽. in Sep at 2 ☽. in Oct. at midnight, in Noue. at 10. ☾. in Dece. at 8. ☾.

6

Oculus Taury or the bulles eye, of the 1. bignes. long. 4. 5'. of ♉. Decl. 15. 38'. Nor. vpon the Peric. this month about 7. ☾. in Sep. at 4. ☽. in Noue. at 1 ☽. in Dec. at 11 ☾. in Jan. at 9. ☾.

7

The left foote of Orion, a ſtar of the firſt bignes, long. 10. 35'. of ♊. Declin. 8. 43'. South, vpon the Pe. this month about 7 ☾. in March at 5 ☾. in Sept. at 5. ☽. in Octo. at 3 ☽. in Nou. at 1 in the ☽. in December at 11 ☾. in Janu. at 9 ☾.

March hath 31. dayes.

The Prime.				Len. of the day	Declination and true of the ☉. in ♈. 1601.				South Declination. North Declination.	☉. in ♈. 1602.			
				H. M.		D. M.	D. M.				D. M.	D. M.	
	1	D.	Dauid.	11 20	1	20 41	3 42			1	20 26	3 48	
viii. 8.	2	E		11 24	2	21 41	3 18			2	21 26	3 24	
xvi. 7.	3	F		11 28	3	22 40	2 55			3	22 26	3 1	
	4	G		11 32	4	23 40	2 31			4	23 25	2 38	
8. v.	5	A		11 36	5	24 40	2 7			5	24 25	2 14	
3. xiii.	6	B		11 40	6	25 39	1 43			6	25 24	1 50	
ii. 11.	7	C		11 44	7	26 39	1 20			7	26 24	1 26	
	8	D		11 48	8	27 38	0 57			8	27 24	1 3	
x. 3.	9	E		11 52	9	28 38	0 33			9	28 23	0 39	
	10	F		11 56	10	29 37	0 9	equi		10	29 23	0 15	
xviii. 7	11	G	Gregory	12 0	11	♈ 37	0 15			11	♈ 22	0 9	
	12	A		12 4	12	1 36	0 38			12	1 21	0 32	
vii. 4.	13	B		12 8	13	2 35	1 2			13	2 21	0 56	
	14	C		12 12	14	3 35	1 26			14	3 20	1 20	
9. xv	15	D		● 16	15	4 34	1 49			15	4 19	1 42	
2. iiii	16	E		12 20	16	5 33	2 13			16	5 19	2 6	
xii. 7	17	F	Edward	12 24	17	6 32	2 36			17	6 18	2 30	
i. 1.	18	G		12 28	18	7 32	3 0			18	7 17	2 53	
	19	A		12 32	19	8 31	3 24			19	8 16	3 17	
ix. 2.	20	B	Benedic	12 36	20	9 30	3 46			20	9 15	3 40	
	21	C		12 40	21	10 29	4 10			21	10 14	4 4	
xvii. 6	22	D		12 43	22	11 28	4 32			22	11 13	4 26	
	23	E		12 47	23	12 27	4 56			23	12 13	4 50	
8. vi.	24	F	Fast.	12 50	24	13 26	5 18			24	13 12	5 13	
1. xiii	25	G	Anuntia-	12 54	25	14 25	5 42			25	14 11	5 36	
iii. 8.	26	A	ation of	12 58	26	15 24	6 4			26	15 10	5 59	
	27	B	Mary.	13 3	27	16 23	6 27			27	16 8	6 21	
2. xi.	28	C		13 6	28	17 22	6 49			28	17 7	6 44	
	29	D		13 10	29	18 21	7 12			29	18 6	7 6	
xix. 7	30	E		13 14	30	19 19	7 34			30	19 5	7 29	
	31	F		13 20	31	20 18	7 57			31	20 4	7 51	

of the Sunne	☉ in ♈. 1603.				South Declination. North Declination.	☉ in ♈. 1604.			
	D.	M.	D.	M.		D.	M.	D.	M.
1	20	11	3	54		1 20	56	3	35
2	21	11	3	30		2 21	56	3	13
3	22	11	3	7		3 22	55	2	50
4	23	11	2	43		4 23	55	2	26
5	24	10	2	19		5 24	55	2	2
6	25	10	1	55		6 25	54	1	38
7	26	9	1	32		7 26	54	1	14
8	27	9	1	9		8 27	54	0	51
9	28	8	0	45		9 28	53	0	27
10	29	8	0	21		10 29	53	0	3
11	♈	7	0	3		11 ♈	51	0	20
12	1	7	0	27		12 1	51	0	44
13	2	6	0	50		13 2	50	1	8
14	3	5	1	14		14 3	50	1	32
15	4	4	1	37		15 4	49	1	54
16	5	3	2	0		16 5	48	2	18
17	6	3	2	24		17 6	47	2	42
18	7	2	2	47		18 7	46	3	6
19	8	2	3	11		19 8	45	3	29
20	9	1	3	34		20 9	44	3	52
21	10	0	3	58		21 10	43	4	15
22	10	59	4	21		22 11	43	4	37
23	11	58	4	45		23 12	42	5	1
24	12	57	5	8		24 13	41	5	24
25	13	56	5	31		25 14	40	5	47
26	14	55	5	54		26 15	39	6	10
27	15	54	6	16		27 16	38	6	33
28	16	53	6	39		28 17	37	6	55
29	17	52	7	1		29 18	36	7	18
30	18	51	7	24		30 19	34	7	40
31	19	49	7	46		31 20	33	8	3

The left shoulder of Orion of the 2 bignes, Lo. 15. 25′. ♊. Declin. 5. 56′. North, is vpon the Merid. in Janu. at 9 E. in Feb. at 7 E. in Sep. at 5 M. in Octob. at 3 M. in Nouem. at 1 M. in Decem. at 11 in the euening.

9

The first of Orions girdle of the 2 bignes, in Lon 16. 45′. of ♊. De. 0. 38′. South vpon the Mer. this month in the day, in Octob. at 4. in the mor. in Nouem. at 2. in the morn. in Dec. at midnight, in Janu. at 10 E. in Februarie at 8 E.

10

Orions right shoulder of the 1. bignes long. 23. 25′. of ♊, Declin. 6. 17′. North. vpon the Meridian in Jan. at 10 in the E. in Feb. at 8 in the E. in Mar. at 4 in the M. in Nou. at 2 M. in Dec. at midnight.

11

Canis maior the great dog, a star of the first bignes, longi. 9. 5′. of ♋. Decli. 16. 12′. South, vpon the Meridian in Janu. at 10 E. in Feb. 8 E. in Mar. at 4 M. in Nouem. at 2 in the M. in December at midnight.

The Prime.				Len. of the day	Declination and true of the ☉. in ♈. 1601.				☉. in ♈. 1602.			
				H.M.		D.M.	D.M.		D.M.	D. M.		
viii.	1	G		13 30	1	21 17	8 18		1	21 38	8 13	
8.xvi.	2	A		13 34	2	22 16	8 41		2	22 28	8 35	
v.	3	B		13 38	3	23 15	9 2		3	23 0	8 57	
xiii.7.	4	C	Ambros	13 42	4	24 13	9 24		4	23 59	9 19	
	5	D		13 46	5	25 12	9 45		5	24 58	9 40	
ii. 2.	6	E		13 50	6	26 10	10 7		6	25 56	10 1	
	7	F		13 53	7	27 9	10 28		7	26 55	10 23	
5.x.	8	G		13 56	8	28 7	10 49		8	27 53	10 43	
	9	A		13 59	9	29 6	11 10		9	28 52	11 4	
xviii.3	10	B		14 2	10	♉ 4	11 30		10	29 50	11 25	
	11	C		14 5	11	1 3	11 51		11	♉ 49	11 45	
8. vii.	12	D		14 8	12	2 1	12 11		12	1 47	12 5	
xv.	13	E		14 12	13	2 59	12 32		13	2 45	12 26	
iiii.7	14	F		14 16	14	3 58	12 52		14	3 44	12 46	
	15	G		14 20	15	4 56	13 11		15	4 42	13 6	
6.xii	16	A		14 24	16	5 54	13 30		16	5 40	13 25	
i.	17	B		14 28	17	6 52	13 49		17	6 39	13 45	
	18	C		14 32	18	7 51	14 9		18	7 37	14 5	
5.ix.	19	D		14 36	19	8 49	14 27		19	8 35	14 24	
	20	E		14 40	20	9 47	14 46		20	9 33	14 42	
7 xvii	21	F		14 44	21	10 45	15 4		21	10 31	15 0	
vi.	22	G		14 47	22	11 43	15 21		22	11 29	15 19	
xiii.7	23	A	S. Georg	14 50	23	12 41	15 39		23	12 27	15 36	
	24	B	Fast.	14 53	24	13 39	15 57		24	13 25	15 54	
3.iii.	25	C	S. Mark	14 56	25	14 37	16 14		25	14 23	16 11	
	26	D		14 59	26	15 35	16 31		26	15 21	16 28	
xi.	27	E		15 2	27	16 33	16 48		27	16 19	16 45	
	28	F		15 5	28	17 31	17 4		28	17 17	17 1	
xix.	29	G		15 8	29	18 29	17 20		29	18 15	17 17	
	30	A		15 12	30	19 27	17 35		30	19 13	17 31	

North Declination.

of the Sunne.

	☉ in V. 1603.		☉ in ♈. 1604.	
	D. M.	D. M.	D. M.	D. M.
1	20 49	8 9	21 32	8 24
2	21 47	8 30	22 31	8 47
3	22 45	8 53	23 29	9 8
4	23 43	9 14	24 28	9 30
5	24 43	9 35	25 27	9 51
6	25 42	9 55	26 26	10 12
7	25 40	10 18	27 24	10 34
8	27 39	10 39	28 23	10 54
9	28 38	10 59	29 21	11 16
10	29 36	11 20	30 20	11 36
11	30 34	11 41	31 18	11 56
12	31 33	12 1	32 16	12 17
13	32 31	12 21	33 15	12 37
14	33 30	12 41	34 13	12 57
15	34 28	13 1	35 11	13 16
16	35 26	13 21	36 10	13 35
17	36 24	13 40	37 8	13 55
18	37 23	14 0	38 6	14 14
19	38 21	14 19	39 4	14 32
20	39 19	14 37	40 2	14 50
21	40 17	14 55	41 1	15 9
22	41 15	15 14	41 59	15 27
23	42 13	15 31	42 57	16 3
24	43 11	15 49	43 55	16 20
25	44 9	16 7	44 53	16 37
26	45 7	16 23	45 51	16 53
27	46 5	16 41	46 49	17 10
28	47 3	16 57	47 47	17 25
29	48 1	17 13	48 44	17 40
30	48 59	17 28	49 42	17 57

North Declination.

12

The formost of Castor & Pollux of the 1. bignes, Lo. 14. 45′. of ♑. Declin. 32. 5′. north, vpon the We. in. Ja. at midnight, in Febrna. at 10. E. in March at 8. E. in Dec. at 6. m. in Nov. at 4. mo. in Dec. at 2. mo.

13

The Lesser Dog, of the 1. bignes, Lon. is 20 de. 55′. of ♑. De. 6. 13′. north, vpon the Merid. in Janu. at midnight, in Febru, at 9. E. in March at 7. E. in De. at 5 mo. in No. at 3 mo. in De. at 1 mo.

14

Brightest in Hidra, of the 2 bignes, Lo. 21. 25′. of ♑. Decli. 6. 53′. south, vpon the We. in Ja. at midnight, in Feb 10 E. in March at 8. E. in Dec. at 6. mo. in Novem. at 4 m. in Decem. at 2. mo.

15

Lyons necke, a star of the 2 bignes, Lo. 23. 35′. of ♑. Decl. 21. 52′. No. vpon the Merid. in Ja. at 2 mo. in Fe. at midnight in Mar at 10. E. in No. at 6. mo. in Dec. at 4. M.

The Prime.			Fast.	Len. of the day H.M.	Declination and true place ☉. in ♈. 1601.			North Declination.	☉. in ♈. 1602.		
						D.M.	D.M.			D.M.	D.M.
II viii. xvi	1	B	Phi. & Ia	15 16	1	20 25	17 53		1	20 11	17 49
v. 7	2	C		15 20	2	21 23	18 8		2	21 9	18 4
	3	D	Iuenti.	15 23	3	22 20	18 23		3	22 7	18 19
8. xiii.	4	E	crosse.	15 26	4	23 18	18 38		4	23 4	18 34
	5	F		15 29	5	24 16	18 52		5	24 2	18 48
7. ii.	6	G	Io. port	15 32	6	25 14	19 5		6	25 0	19 2
x. 11	7	A	Latin.	15 35	7	26 12	19 20		7	25 58	19 16
	8	B		15 38	8	27 9	19 33		8	26 55	19 29
	9	C		15 40	9	28 7	19 45		9	27 53	19 42
9. xviii	10	D		15 42	10	29 5	19 59		10	28 51	19 55
vii. 1.	11	E		15 44	11	♊ 3	20 10		11	29 49	20 7
xv. 8	12	F		15 46	12	1 0	20 23		12	♊ 46	20 19
	13	G		15 48	13	1 58	20 35		13	1 44	20 32
8. iiii	14	A		15 50	14	2 56	20 46		14	2 41	20 43
xii. 6	15	B		15 53	15	3 53	20 57		15	3 39	20 55
	16	C		15 56	16	4 51	21 7		16	4 37	21 5
8 i.	17	D		15 58	17	5 49	21 18		17	5 34	21 15
ix. 9.	18	E		16 0	18	6 46	21 28		18	6 32	21 26
x ix.	19	F	Dunstan	16 3	19	7 44	21 38		19	7 29	21 35
xvii.	20	G		16 6	20	8 41	21 47		20	8 27	21 45
vi. 8	21	A		16 9	21	9 39	21 55		21	9 24	21 53
	22	B		16 12	22	10 36	22 4		22	10 22	22 2
9. xiii	23	C		16 14	23	11 34	22 12		23	11 19	22 10
iii. 10.	24	D		16 16	24	12 31	22 19		24	12 17	22 18
	25	E		16 18	25	13 29	22 26		25	13 14	22 25
xi. 4	26	F	Augustin	16 20	26	14 26	22 33		26	14 12	22 32
	27	G		16 22	27	15 24	22 40		27	15 9	22 38
	28	A		16 24	28	16 21	22 46		28	16 7	22 45
	29	B		16 26	29	17 18	22 52		29	17 5	22 50
viii.	30	C		16 27	30	18 16	22 56		30	18 1	22 55
	31	D		16 28	31	19 13	23 2		31	18 59	23 1

of the Sunne.

☉ in ♂ 1603.				☉ in ♂ 1604.			
	D. M.	D. M.			D. M.	D. M.	
1	19 57	17 43		1	20 40	17 57	
2	20 54	18 0		2	21 38	18 12	
3	21 52	18 15		3	22 36	18 26	
4	22 50	18 30		4	23 34	18 42	
5	23 48	18 45		5	24 32	18 56	
6	24 46	19 0		6	25 29	19 9	
7	25 43	19 13	North Declination.	7	26 27	19 23	
8	26 41	19 28		8	27 25	19 36	
9	27 39	19 40		9	28 23	19 49	
10	28 37	19 52		10	29 20	20 2	
11	29 34	20 5		11	♊ 18	20 14	
12	♊ 32	20 16		12	1 16	20 26	
13	1 30	20 29		13	2 14	20 38	
14	2 27	20 40		14	3 11	20 49	
15	3 25	20 52		15	4 9	20 59	
16	4 23	21 3		16	5 6	21 10	
17	5 20	21 13		17	6 4	21 20	
18	6 18	21 24		18	7 2	21 30	
19	7 15	21 33		19	7 59	21 39	
20	8 13	21 43		20	8 57	21 48	
21	9 10	21 52		21	9 54	21 56	
22	10 8	22 0		22	10 52	22 4	
23	11 5	22 8		23	11 49	22 13	
24	12 3	22 15		24	12 46	22 20	
25	13 0	22 23		25	13 44	22 28	
26	13 58	22 30		26	14 41	22 34	
27	14 55	22 36		27	15 39	22 40	
28	15 53	22 43		28	16 36	22 47	
29	16 50	22 49		29	17 33	22 53	
30	17 47	22 54		30	18 31	22 58	
31	18 45	22 59		31	19 28	23 3	

16

Lyons heart of the 1. big. Lon. 23. 55′ of ♌. Decl. 13. 54′. north, vpon the Meri. in Ianu. at 2 M. in Feb. at midnight, in March at 10. E. in Nou. at 6. M. in Dec. at 4. mo.

17

Lyons backe of the 2. big. Long. 5. 35′. of ♍. Decl. 22 43′. North, vpon the Mer. in Ianua. at 3. M. in Feb. at 1 M. in March at 11. E in Aprill at 9. E. in Noue. at 7 M. in Dec. at 5. mo.

18

The Lyons taile, a star of 1. bignes, Long. 15. 55′ of ♍. Declina. 16. 50′. north, vpon the Mer. in Ian. at 4. M. in Feb. at 2 M. in Mar. at midnight, in Aprll at 10 E. in Nou. at 8 M. in Dec. at 6. M.

19

The Rauens head, a star of the 3. bignes, lon. 5. 45′. of ♎. Decli. 20. 45′. South, vpon the Meri. in Ianu. at 5. M. in Feb. at 3. Mo. in March at 1 M. in Ap. at 11 E. in May at 9 E. in Dec. at 7 M.

Iune hath 30. dayes.

The Prime				Len of the day	Declination and true place ☉ in II. 1601.			North Declination	☉ in 4 1602.		
				H.M.		D.M.	D.M.			D.M.	D.M.
9.v.	1	E		16 28	1	20 10	23 6		1	19 56	23 5
xiii.2	2	F		16 28	2	21 7	23 10		2	20 53	23 9
	3	G		16 29	3	22 5	23 14		3	21 51	23 13
ii.8	4	A		16 29	4	23 2	23 17		4	22 48	23 16
	5	B	Bonifac.	16 29	5	23 59	23 20		5	23 45	23 19
x.3	6	C		16 29	6	24 57	23 22		6	24 42	23 21
	7	D		16 30	7	25 54	23 24		7	25 39	23 23
xviii.	8	E		16 30	8	26 51	23 25		8	26 37	23 25
vii.8	9	F		16 30	9	27 48	23 26		9	27 34	23 26
	10	G		16 30	10	28 46	23 27		10	28 31	23 27
9.xv	11	A	Barnabe	16 30	11	29 43	23 28		11	29 29	23 28
iiii.4	12	B		16 30	12	♋ 40	23 28		12	♋ 26	23 28
	13	C		16 30	13	1 37	23 28		13	1 23	23 28
4.xii	14	D		16 30	14	2 34	23 27		14	2 20	23 27
1.6	15	E		16 30	15	3 32	23 26		15	3 17	23 26
	16	F		16 30	16	4 29	23 24		16	4 15	23 24
3.ix	17	G		16 29	17	5 26	23 22		17	5 12	23 22
xvii.8	18	A		16 29	18	6 23	23 20		18	6 9	23 20
vi.5	19	B		16 28	19	7 20	23 16		19	7 6	23 17
	20	C	Edward	16 27	20	8 18	23 13		20	8 3	23 14
xiiii.	21	D		16 26	21	9 15	23 9		21	9 1	23 10
	22	E		16 25	22	10 12	23 4		22	9 58	23 5
iii.	23	F	Fast	16 24	23	11 9	23 0		23	10 55	23 1
	24	G	Iohn Ba	16 23	24	12 6	22 55		24	11 52	22 55
5.xi.	25	A		16 22	25	13 3	22 50		25	12 49	22 51
	26	B		16 20	26	14 1	22 44		26	13 47	22 46
1.xix.	27	C		16 18	27	14 58	22 37		27	14 44	22 39
viii.8.	28	D	Fast	16 16	28	15 55	22 31		28	15 41	22 32
9.xvi	29	E	S.Peter.	16 14	29	16 52	22 24		29	16 38	22 26
v.	30	F		16 13	30	17 50	22 16		30	17 36	22 19

of the Sunne.

☉ in ♊ 1603.				☉ in ♊ 1604.			
	D.	M.	DM.		D.	M.	D. M.
1	19	42	23 4	1	20	25	23 7
2	20	39	23 8	2	21	23	23 12
3	21	37	23 12	3	22	20	23 15
4	22	34	23 16	4	23	17	23 18
5	23	31	23 18	5	24	14	23 20
6	24	28	23 21	6	25	12	23 22
7	25	26	23 22	7	26	9	23 24
8	26	23	23 24	8	27	6	23 26
9	27	20	23 26	9	28	3	23 27
10	28	17	23 27	10	29	0	23 28
11	29	15	23 28	11	☉	58	23 28
12	☉	12	23 28	12	☉	55	23 28
13	1	9	23 28	13	1	52	23 27
14	2	6	23 27	14	2	49	23 26
15	3	3	23 26	15	3	47	23 24
16	4	1	23 24	16	4	44	23 22
17	4	58	23 22	17	5	41	23 20
18	5	55	23 20	18	6	38	23 18
19	6	52	23 17	19	7	35	23 15
20	7	49	23 14	20	8	33	23 11
21	8	47	23 11	21	9	30	23 7
22	9	44	23 6	22	10	27	23 3
23	10	41	23 2	23	11	24	22 58
24	11	38	22 58	24	12	21	22 53
25	12	35	22 52	25	13	19	22 48
26	13	33	22 47	26	14	16	22 42
27	14	30	22 41	27	15	13	22 35
28	15	27	22 34	28	16	10	22 29
29	16	24	22 27	29	17	8	22 22
30	17	21	22 20	30	18	5	22 15

North Declination.

20

The Ravens wing of the 3. bignes, long. 9. 25′. of ♎. Decli. 15. 16′. South, vpon the Meri. in Janu. at 5. ☽. in Febr. at 3. ☽. in March at 1 ☽. in Aprill at 11 ☾. in May at 9 ☾. in Iune at 7 ☽.

21

Virgins spike of the 1. big. Long. 18. 5′ of ♎. Decli. 9. 0′. South, vpon the Meri. in Janu. at 6 ☽. in Febr. at 4. ☽. in March at 2. ☽. in Aprill at midnight, in May at 10. ☾.

22

Arcturus a star of the first bignes. Long. 18. 25′. of ♎. Decli. 21. 20′. North, vpon the Meridi. in Janu. at 6. ☽. in Febr. at 4 ☽. in March at 2. ☽. in Aprill about midnight, in May at 10 in the Euening.

23

The South ballance, a star of the second bignes, Lon. 9. 25′ of ♏. Declin. 14. 14′. South, vpon the Meri. in Ja. at 7. ☽. in Febr. at 5 ☽. in March at 3. ☽. in Aprill at 1 ☽. in May at 11. Eue. in Iune at 9. Euening.

Iuly hath 31. dayes.

The Prime				Len. of the day	Declination and true place ☉ in ♋. 1601.			North Declination.	☉ in ♌ 1602.		
				H.M.		D.M.	D.M.			D.M.	D.M.
	1	G	Visitati.	16 12	1	18 48	22 9		1	18 33	22 10
10.xiii	2	A	Mary,	16 10	2	19 44	20 0		2	19 30	22 3
	3	B	Martin	16 8	3	20 41	21 52		3	20 27	21 54
4.ii	4	C		16 6	4	21 39	21 43		4	21 25	21 45
	5	D		16 4	5	22 36	21 34		5	22 23	21 37
9.x	6	E	Dog da.	16 1	6	23 33	21 24		6	23 19	21 27
xviii.8	7	F	begin.	15 57	7	24 30	21 14		7	24 16	21 17
	8	G		15 54	8	25 28	21 4		8	25 14	21 6
9.vii	9	A		15 51	9	26 25	20 53		9	26 11	20 56
2.xv	10	B		15 48	10	27 22	20 43		10	27 8	20 45
	11	C		15 46	11	28 19	20 31		11	28 5	20 34
7.iiii	12	D		15 44	12	29 17	20 20		12	29 3	20 23
xii.11	13	E		15 41	13	♌ 14	20 7		13	30 0	20 10
	14	F		15 38	14	1 11	19 55		14	♌ 57	19 58
5.i	15	G	Swithin	15 35	15	2 9	19 42		15	1 55	19 45
ix.7	16	A		15 32	16	3 6	19 30		16	2 52	19 32
	17	B		15 29	17	4 3	19 17		17	3 49	19 19
5.xvii	18	C		15 26	18	5 1	19 2		18	4 47	19 4
vi.	19	D		15 23	19	5 58	18 48		19	5 44	18 52
xiiii.9	20	E	Margret	15 20	20	6 55	18 34		20	6 41	18 38
	21	F		15 17	21	7 53	18 20		21	7 39	18 23
	22	G	Magdal	15 13	22	8 50	18 4		22	8 36	18 8
9. iii	23	A		15 10	23	9 48	17 50		23	9 34	17 53
xi.10.	24	B	Fast	15 7	24	10 45	17 34		24	10 31	17 37
	25	C	S. Iames	15 5	25	11 43	17 17		25	11 28	17 20
xix.8.	26	D	Anna.	15 3	26	12 40	17 2		26	12 26	17 5
	27	E		15 0	27	13 38	16 45		27	13 23	16 49
xv.8.viii	28	F		14 58	28	14 35	16 29		28	14 21	16 33
v.	29	G		14 55	29	15 33	16 11		29	15 18	16 16
	30	A		14 52	30	16 30	15 55		30	16 16	15 59
	31	B		14 50	31	17 28	15 37		31	17 14	15 42

of the Sunne.

	☉ in ♋. 1603.		☉ in ♋. 1604.	
	North Declination.			
	D.	M.	D.	M.
1	18	19	22	12
2	19	16	22	5
3	20	13	21	56
4	21	10	21	47
5	22	8	21	39
6	23	5	21	29
7	24	2	21	20
8	24	59	21	9
9	25	57	20	59
10	26	54	20	48
11	27	51	20	37
12	28	49	20	25
13	29	46	20	13
14	♌	43	19	59
15	1	40	19	49
16	2	38	19	35
17	3	35	19	22
18	4	32	19	9
19	5	30	18	54
20	6	27	18	40
21	7	25	18	26
22	8	22	18	11
23	9	19	17	57
24	10	17	17	42
25	11	14	17	24
26	12	12	17	10
27	13	9	16	54
28	14	7	16	38
29	15	4	16	20
30	16	2	16	4
31	17	0	15	46
			15	35

24

The North ballance of the 2. bignes, Lo. 13. 35'. of ♎. Declin. 7. 46'. south, vpon the Ye. in. Jan. at 8 ☽. in Feb. at 6 ☽. in March at 4 moz. in apzill at 2. mozn. in May at midnight, in June at 10. ☾.

25

Scorpions heart of the 3. bignes, Lo. 4. 5'. of ♏. Dec. 25. 25'. south, vpon the Ye. in Febz. at 7. mo. in march at 5. mo. in apzill at 3. moz. in May at 1. mozn. in June at 11. ☾.

26

Hercules head of the 3. bignes, Lon. 16. 15'. of ♐. Decli. 14. 57'. north, vpon the Ye. in Feb at 7. mo. in March at 5. mo. in apzill at 3. mo. in May at 1. moz. in June at 11. ☾.

27

The Scorpions tayle, a ſtar of the 3 bignes, Lo. 18 55'. of ♐. Dec. 36. 27'. Sou. vpon the Meridi. in Apzill at 4 moz. in May at 2. moz. in June at midnight, in July at 10. ☾. in August at 8. ☾. in Sept. at 6. ☾.

The Prime.				Len. of the day	Declination and true place ☉ in ♌. 1601.				North Declination.	☉ in ♌. 1602.			
				H. M.		D. M.		D. M.			D. M.	D. M.	
	1		Lamina:	14 46	1	18 25	15 20			1	18 11	15 24	
	2			14 42	2	19 23	15 2			2	19 9	15 7	
10. ii.	3			14 38	3	20 21	14 43			3	20 6	15 48	
x.4	4			14 34	4	21 18	14 25			4	21 4	14 30	
	5			14 30	5	22 16	14 6			5	22 2	14 12	
8.xviii	6			14 26	6	23 14	13 47			6	23 0	13 52	
2. vii.	7			14 22	7	24 11	13 28			7	23 57	13 32	
xv.7	8			14 18	8	25 9	13 9			8	24 55	13 13	
	9			14 15	9	26 7	12 50			9	25 53	12 54	
iiii.7	10		Lauren.	14 12	10	27 5	12 31			10	26 50	12 35	
	11			14 9	11	28 3	12 11			11	27 48	12 14	
xii.2	12			14 6	12	29 0	11 50			12	28 46	11 54	
i.6	13			14 3	13	29 58	11 29			13	29 44	11 34	
	14			14 0	14	♍ 56	11 9			14	♌ 42	11 14	
8.ix.	15			13 56	15	1 54	10 47			15	1 40	10 53	
1 xvi	16			13 52	16	2 52	10 27			16	2 38	10 32	
vii. 8	17			13 50	17	3 50	10 7			17	3 36	10 12	
	18			13 44	18	4 48	9 46			18	4 34	9 50	
3.xiii	19			13 40	19	5 46	9 24			19	5 32	9 29	
	20			13 35	20	6 44	9 3			20	6 30	9 8	
iiii.7	21			13 30	21	7 42	8 41			21	7 28	8 47	
	22			13 25	22	8 40	8 20			22	8 26	8 2	
xi.	23	D	East.	13 20	23	9 38	7 58			23	9 24	7 41	
	24	E	Barthol.	13 15	24	10 37	7 37			24	10 22	7 18	
8.xix	25	F	Apostle.	13 10	25	11 35	7 14			25	11 20	6 56	
xv. Lonii	26	G		13 6	26	12 33	6 52			26	12 19	6 34	
	27	A		13 2	27	13 31	6 25			27	13 17	6 15	
v.1	28	B		12 58	28	14 30	6 7			28	14 15	5 50	
	29	C	Behead.	12 54	29	15 28	5 44			29	15 13	5 27	
5.xiii.	30	D	of Iohn.	12 51	30	16 26	5 22			30	16 11	5 03	
	31	E		12 48	31	17 25	4 58			31	17 10	4 41	

of the Sunne.

	☉ in ♌ 1603		☉ in ♌ 1604	
	North Declination.			
	D. M.	D. M.	D. M.	D. M.
1	17 57	15 29	18 41	15 15
2	18 55	15 10	19 38	14 57
3	19 52	14 53	20 36	14 39
4	20 50	14 35	21 34	14 20
5	21 48	14 16	22 31	14 2
6	22 45	13 58	23 29	13 42
7	23 43	13 38	24 27	13 23
8	24 41	13 28	25 24	13 4
9	25 39	12 59	26 22	12 45
10	26 36	12 39	27 20	12 25
11	27 34	12 20	28 18	12 5
12	28 32	12 0	29 16	11 45
13	29 30	11 40	♍ 14	11 25
14	♍ 28	11 19	1 11	11 4
15	1 26	10 59	2 9	10 43
16	2 24	10 37	3 7	10 23
17	3 22	10 17	4 5	10 1
18	4 20	9 56	5 3	9 4
19	5 18	9 34	6 1	9 19
20	6 16	9 13	7 0	8 57
21	7 14	8 52	7 58	8 36
22	8 12	8 31	8 56	8 15
23	9 10	8 9	9 54	7 53
24	10 8	7 47	10 52	7 30
25	11 6	7 25	11 50	7 7
26	12 5	7 2	12 48	6 45
27	13 3	6 40	13 47	6 23
28	14 1	6 18	14 45	6 0
29	14 59	5 55	15 43	5 38
30	15 58	5 31	16 42	5 16
31	16 56	5 10	17 40	4 52

Lyra or vultur cadens the falling vultur, a ſtar of the 1 bignes, Lo. 8.45′. ♈. De. 38.42′. North, is vpon the Meri. in May at 3. mor. in June at 1 morn. in July at 11 ☾. in Au. at 9 ☾. in Sep. at 7 ☾. in Oct. at 5 ☾.

29

Aquila the Eagle, of the 2 bignes, Lon 25.15′. of ♈. Decl. 7.54′. Nor. vpon the Meri. in June at 2 mor. in July at midnight, in Au. at 10 ☾. in Sep. at 8 ☾. in Oct at 6 ☾. in Noue. at 4. ☾.

30

Cornu Capricorni, of the 3. bignes, long. 28.45′. of ♈. Decl 13.5′. ſouth, vpon the Meri in June at 3 mor. in July at 1 m. in Au. at 11 ☾. in Sep at 9. ☾. in Oct. at 7. ☾ in Noue. at 5 ☾.

31

Dolphins taile, of ♑ 3 big. long. 8.55′. of ♒. Decl. 10. 10′. North, vpon the Me. in June at 3 mor. in July at 1 mo. in Au. at 11 ☾. in Sep. at 9. ☾. in Oct. at 7 ☾. in Nou. at 5 ☾.

September hath 30. dayes.

The Prime.				Len. of the day	Declination and true place ☉. in my. 1601.					☉. in my. 1602.			
				H. M.		D. M.	D. M.			D. M.	D. M.		
ii.3	1	F	Giles.	12 48	1	18 23	4 36	North Declination.		1 18	9	4	42
	2	G		12 44	2	19 22	4 13			2 19	7	4	18
9.x	3	A		12 40	3	20 20	3 50			3 20	6	3	56
i xviii	4	B		12 36	4	21 19	3 26			4 21	4	3	33
vii.7	5	C	Dog d.e.	12 32	5	22 17	3 4			5 22	3	3	10
	6	D		12 28	6	23 16	2 41			6 23	1	2	47
6.xv	7	E	Na.Eliz.	12 24	7	24 14	2 17			7 24	0	2	23
	8	F	Na.Ma.	12 20	8	25 13	1 54			8 24	59	1	59
iii.	9	G		12 16	9	26 12	1 30			9 25	57	1	35
	10	A		12 12	10	27 10	1 8			10 26	56	1	13
i.xii.	11	B		12 8	11	28 9	0 45			11 27	55	0	50
8.v.	12	C		12 4	12	29 8	0 21			12 28	53	0	27
ix.	13	D		12 0	13	8 7	0 3			13 29	52	0	3
xvii.8.	14	E	Hol. cro	11 56	14	1 6	0 26	South Declination.		14 8	51	0	20
	15	F		11 52	15	2 5	0 50			15 1	50	0	44
3.vi	16	G		11 48	16	3 4	1 14			16 2	49	1	7
	17	A	Lamber	11 44	17	4 3	1 36			17 3	48	1	31
xiiii.	18	B		11 40	18	5 2	2 0			18 4	47	1	54
	19	C		11 36	19	5 1	2 23			19 5	46	2	18
i.iii.	20	D	Fast.	11 32	20	7 0	2 47			20 6	45	2	41
	21	E	Mathew	11 28	21	7 59	3 11			21 7	44	3	5
xi.	22	F		11 24	22	8 58	3 34			22 8	43	3	28
xix.	23	G		11 20	23	9 57	3 57			23 9	42	3	50
viii.7.	24	A		11 16	24	10 56	4 20			24 10	41	4	14
xvi.	25	B	Cipria	11 12	25	11 56	4 44			25 11	41	4	37
	26	C		11 8	26	12 55	5 6			26 12	40	5	0
7.v	27	D		11 4	27	13 54	5 30			27 13	39	5	23
	28	E	Fast	11 0	28	14 53	5 52			28 14	38	5	46
xiii.	29	F	S. Micha	10 56	29	15 53	6 15			29 15	38	6	9
	30	G	Hierom	10 52	30	16 52	6 38			30 16	37	6	32

of the Sunne.

☉.in ♍.1603.					☉.in ♍.1604.			
	D.	M.	D.	M.		D.	M.	D.	M.
1	17	54	4	47	1	18	38	4	30
2	18	53	4	24	2	19	37	4	7
3	19	51	4	1	3	20	35	3	44
4	20	50	3	38	4	21	34	3	21
5	21	48	3	15	5	22	32	2	58
6	22	47	2	52	6	23	31	2	34
7	23	45	2	29	7	24	31	2	10
8	24	44	2	5	8	25	28	1	48
9	25	43	1	41	9	26	27	1	24
10	26	41	1	19	10	27	26	1	2
11	27	4	0	56	11	28	24	0	38
12	28	39	0	32	12	29	23	0	15
13	29	38	0	8	13	♎	21	0	9
14	♎	37	0	15	14	1	21	0	32
15	1	36	0	38	15	2	20	0	56
16	2	34	1	1	16	3	19	1	20
17	3	33	1	25	17	4	18	1	42
18	4	32	1	48	18	5	17	2	6
19	5	31	2	11	19	6	16	2	29
20	6	30	2	35	20	7	15	2	53
21	7	29	2	59	21	8	14	3	16
22	8	29	3	22	22	9	13	3	39
23	9	28	3	45	23	10	12	4	2
24	10	27	4	9	24	11	12	4	25
25	11	26	4	31	25	12	11	4	49
26	12	25	4	55	26	13	10	5	12
27	13	25	5	18	27	14	9	5	35
28	14	24	5	41	28	15	9	5	58
29	15	23	6	4	29	16	8	6	21
30	16	23	6	27	30	17	7	6	44

North Declination.

South Declination.

32

Goates tatle, of the 3. big. Lo. 16. 15′. of ♒. Declin. 17 de. 51′. south, vpon the Me. in July at 2 mo. in August at midnight, in Sept. at 10. C. in Oct. at 8. C. in Noue. at 6 C. in Decem. at 4 eue.

33

Aquarius leg. of the 3. big. Lo. 3. 5′. of ♐. Decl. 18. 10′. South, vpon the Me. in Ju. at 3 Mo. in August. at 1 Mo. in Sep at 11 euen. in Oct. at 9 euen. in Nou. at 7. eue. in Dec. at 5 euening.

34

The shoulder of Pegasus, of the 2 bignes, Longi. 18. deg. 5′. of ♐. Decl. 12. 58′. north, vpon the Mer. in Ja. at 4 C. in Aug. at 2 Mo. in Sep. at midnight, in Oct. at 10 C. in Nouem. at 8 euen. in Dec. at 6 C.

35

Pegasus leg. of the 2 bign, Lon. 23. 35′. of ♐. Decl 25. 58′. north. vpō the Mer. in Jan. at 4 C. in Au. at 2 M. in Sep. at midnight. in Oct at 10 euening, in Nou. at 8 euening, in Dece. at 6. in the euening.

October hath 31. dayes.

The Prime.				Len. of the day	Declination and true place ☉ in ♎. 1601.				☉ in ♎ 1602.			
				H. M.		D. M.	D. M.	South Declination.		D. M.	D. M.	
8.ii	1	A		10 48	1	17 52	7 2		1	17 37	6 5	
x.i	2	B		10 44	2	18 51	7 24		2	18 36	7 18	
xviii.	3	C		10 40	3	19 51	7 47		3	19 35	7 40	
	4	D		10 36	4	20 50	8 10		4	20 35	8 3	
6.vii	5	E		10 32	5	21 50	8 31		5	21 34	8 25	
xv.7	6	F	Faith.	10 28	6	22 49	8 54		6	22 34	8 47	
	7	G		10 24	7	23 49	9 15		7	23 34	9 9	
	8	A		10 20	8	24 48	9 37		8	24 33	9 31	
7.iiii	9	B	Dennis.	10 16	9	25 48	9 58		9	25 33	9 53	
xii.10	10	C		10 12	10	26 48	10 20		10	26 33	10 15	
i. 2	11	D		10 8	11	27 47	10 42		11	27 32	10 37	
ix.9	12	E		10 4	12	28 47	11 3		12	28 32	10 57	
	13	F	Edward	10 0	13	29 47	11 25		13	29 32	11 19	
4.xvii	14	G		9 56	14	♏ 47	11 47		14	♏ 32	11 40	
vi. 11	15	A		9 52	15	1 47	12 6		15	1 32	12 1	
	16	B		9 48	16	2 47	12 27		16	2 31	12 22	
xiiii.5	17	C	Fast	9 44	17	3 47	12 48		17	3 31	12 43	
	18	D	S. Luke.	9 40	18	4 47	13 8		18	4 31	13 2	
	19	E		9 36	19	5 47	13 28		19	5 31	13 22	
10.iii	20	F		9 32	20	6 47	13 48		20	6 31	13 42	
xi.12.	21	G		9 28	21	7 47	14 8		21	7 31	14 2	
xix.9.	22	A		9 24	22	8 47	14 27		22	8 31	14 22	
	23	B		9 20	23	9 47	14 46		23	9 31	14 41	
7.viii.	24	C		9 17	24	10 47	15 6		24	10 32	15 0	
8.xvi.	25	D	Crispine	9 14	25	11 47	15 24		25	11 32	15 19	
v.11	26	E		9 10	26	12 47	15 41		26	12 32	15 37	
	27	F	Fast.	9 7	27	13 48	16 0		27	13 32	15 56	
xiii.5.	28	G	Simon	9 4	28	14 48	16 18		28	14 33	16 13	
	29	A	& Iude	9 0	29	15 48	16 35		29	15 33	16 30	
ii.3.	30	B		8 56	30	16 49	16 53		30	16 33	16 48	
x.11	31	C		8 52	31	17 49	17 10		31	17 34	17 5	

October,

of the sunne.

	☉ in ♎ 1603.		South Declination.	☉ in ♎ 1604.	
	D.	M.	D. M.	D.	M.
1	17	22	6 49	18	7
2	18	22	7 12	19	6
3	19	21	7 35	20	6
4	20	21	7 58	21	5
5	21	2	8 19	22	5
6	22	20	8 42	23	4
7	23	19	9 4	24	4
8	24	19	9 26	25	4
9	25	18	9 48	26	3
10	25	18	10 10	27	3
11	27	18	10 32	28	3
12	28	18	10 53	29	3
13	29	17	11 14	m	2
14	m	17	11 35	1	2
15	1	17	11 56	2	2
16	2	17	12 17	3	2
17	3	17	12 38	4	2
18	4	17	12 58	5	2
19	5	17	13 18	6	2
20	6	17	13 38	7	2
21	7	17	13 58	8	2
22	8	17	14 18	9	2
23	9	17	14 36	10	2
24	10	17	14 55	11	3
25	11	17	15 14	12	3
26	12	18	15 32	13	3
27	13	18	15 51	14	3
28	14	18	16 9	15	4
29	15	19	16 26	16	4
30	16	19	16 44	17	4
31	17	19	17 1	18	5

Starres neere about the North Pole, whose declination is set downe according to their distance from the sayd Pole.

1

The Pole Starre of the 2. bignes, Lo. 11. 30′. of ♈. Declin. or distance from the Pole 2. degr. 52′. vpon the Merid. in Ianua. at 5. ☾. aboue the Pole, and at 5. ☽. vnder it, and each month after sooner by 2. houres.

2

Perseus right side, of the 2. bignes. Lo. 25. 0′. of ♉. De. 41. 38′. vpon the ☽. in Ia. at 8 ☾. in Febru. at 6. ☾. in Sep. at 4 ☽. in Oct. at 2 ☽. in Nou. at midnight, in De. at 10 ☾.

3

Hircus the goate of the first bignes, Lon. 16 degr. of ♈. Decl. 44. 30′. vpon the ☽. at the same time that the first in Orions girdle is

4

The great Beares side, of the 2 bignes, Lon. 30. 0′. of ♌. Dec. 31. 26′. vpō the ☽. in Ianua. at 3. ☽. aboue the Pole, at 3. ☾. vnder it, & each month after sooner by 2. hou.

November hath 30. dayes.

Fl. Prime.			Fast	Len. of the day H.M.	Declination and true place ☉ in ♏ 1601. D.M.	D.M.	South Declinaton.	☉ in ♏ 1602. D.M.	D.M.
	1	D	All Saint	8 49	1 18 50	17 26		1 18 34	17 22
5. xviii	2	E		8 46	2 19 50	17 41		2 19 34	17 37
vii. 8	3	F		8 43	3 20 50	17 59		3 20 35	17 55
	4	G		8 40	4 21 51	18 15		4 21 35	18 11
xv.	5	A		8 37	5 22 51	18 30		5 22 36	18 26
	6	B	Leonard	8 34	6 23 52	18 46		6 23 37	18 42
iiii. 10	7	C		8 31	7 24 53	19 1		7 24 37	18 57
	8	D		8 28	8 25 53	19 15		8 25 38	19 11
xii. 1	9	E		8 25	9 26 54	19 30		9 26 38	19 26
9. i	10	F		8 22	10 27 54	19 44		10 27 39	19 40
6. ix	11	G	S. Marti.	8 19	11 28 55	19 57		11 28 40	19 53
	12	A		8 16	12 29 56	20 10		12 29 41	20 7
xvii.	13	B		8 13	13 [illegible] 56	20 22		13 [illegible] 41	20 19
vi. 5	14	C		8 10	14 1 57	20 34		14 1 42	20 32
	15	D		8 7	15 2 58	20 46		15 2 43	20 44
xiiii.	16	E		8 4	16 3 59	20 58		16 3 44	20 56
	17	F	Init. Reg	8 2	17 5 0	21 9		17 4 44	21 6
iii. 3	18	G	Elizabet	8 0	18 6 0	21 20		18 5 45	21 17
	19	A		7 57	19 7 1	21 30		19 6 46	21 28
11. xi.	20	B	Edmon.	7 54	20 8 2	21 40		20 7 47	21 38
4. xix.	21	C		7 51	21 9 3	21 49		21 8 48	21 48
viii. 6.	22	D	Cicily.	7 49	22 10 4	21 58		22 9 49	21 56
xvi 10	23	E	Clement	7 47	23 11 5	22 7		23 10 50	22 5
	24	F		7 45	24 12 6	22 16		24 11 51	22 14
v. 5	25	G	Katheri.	7 43	25 13 7	22 24		25 12 52	22 22
	26	A		7 40	26 14 8	22 31		26 13 53	22 29
1. xiii.	27	B		7 38	27 15 9	22 38		27 14 54	22 36
	28	C		7 37	28 16 10	22 45		28 15 55	22 43
8. ii.	29	D	Fast.	7 36	29 17 11	22 51		29 16 56	22 50
3. x	30	E	Andrew	7 35	30 18 12	22 56		30 17 57	22 55

of the Sunne.

	☉ in ♏. 1603			☉ in ♐ 1604.		
	D. M.	D. M.		D. M.	D. M.	
1	18 20	17 10	1	19 5	17 29	
2	19 20	17 33	2	20 5	17 47	
3	20 21	17 52	3	21 6	18 3	
4	21 21	18 7	4	22 6	18 18	
5	22 21	18 22	5	23 7	18 34	
6	23 22	18 38	6	24 7	18 49	
7	24 23	18 53	7	25 8	19 4	
8	25 23	19 7	8	26 9	19 19	
9	26 24	19 22	9	27 9	19 33	
10	27 24	19 36	10	28 10	19 46	
11	28 25	19 49	11	29 11	20 0	
12	29 26	20 4	12	♐ 11	20 12	
13	♐ 26	20 16	13	1 12	20 25	
14	1 27	20 29	14	2 13	20 37	
15	2 28	20 41	15	3 14	30 50	
16	3 29	20 53	16	4 14	21 1	
17	4 29	21 4	17	5 15	21 12	
18	5 30	21 15	18	6 16	21 23	
19	6 31	21 25	19	7 17	21 33	
20	7 32	21 35	20	8 18	21 43	
21	8 33	21 45	21	9 19	21 52	
22	9 34	21 54	22	10 20	22 1	
23	10 35	22 3	23	11 21	22 10	
24	11 36	22 12	24	12 22	22 18	
25	12 37	22 20	25	13 23	22 26	
26	13 38	22 27	26	14 24	22 33	
27	14 39	22 34	27	15 25	22 40	
28	15 40	22 41	28	16 26	22 47	
29	16 41	22 48	29	17 27	22 53	
30	17 42	22 54	30	18 28	22 58	

South Declination.

5

The great Beares backe, of the 2 bignes, Lo 3. 0'. of ♏ Dist. 26. 5'. vpon the Meridi. when the Beares side is.

6

The foremost Guard, of the 2 bignes, Long 3. 0 of ♏ Distant 14. 11'. vpon the Meri. 1/4. of an houre sooner then the South ballance.

7

The Swans taple, of the 2. bignes Lon. 30. 0'. of ♒. Dist. 46. 6'. vpon the Meri. in July at 2. 1/2. mo. in Aug. at 12. 1/2. M. in Sept. at 10. 1/2. E. in Oct. at 8. 1/2. E. in No. at 6 1/2. En in December at 4. 1/2. E.

These following are South starres, and their dystance is counted from the South Pole.

1

Fomahand, a star in the mouth of the South Fish, of the 1 big. long. 28. deg. of ♒. Distant from the south Pole 52. 30'. vpon the Me. with the Swans talle.

December hath 31. dayes.

The Prime.				Len. of the day	Declination and true place ☉. in ♐. 1601.			South Declination.	☉. in ♐ 1602.		
				H. M.		D. M.	D. M.			D. M.	D. M.
xviii. 9	1	F		7 34	1	19 13	23 2		1	18 58	23 1
	2	G		7 33	2	20 14	23 6		2	19 59	23 5
vii.	3	A		7 32	3	21 15	23 11		3	21 0	23 10
	4	B		7 31	4	22 16	23 15		4	22 1	23 14
6. xv	5	C		7 30	5	23 17	23 18		5	23 2	23 17
	6	D		7 30	6	24 18	23 21		6	24 3	23 20
iiii. 2	7	E		7 30	7	25 19	23 23		7	25 5	23 22
	8	F	Con. Ma	7 30	8	26 21	23 25		8	26 6	23 24
to. xii. 2.	9	G		7 30	9	27 22	23 27		9	27 7	23 26
x. 6.	10	A		7 30	10	28 23	23 28		10	28 8	23 27
	11	B		7 30	11	29 24	23 28		11	29 9	23 28
xvii 5	12	C		7 30	12	0 25	23 28		12	0 10	23 28
	13	D	ucy.	7 30	13	1 26	23 28		13	1 12	23 28
vi.	14	E		7 31	14	2 28	23 27		14	2 13	23 27
	15	F		7 32	15	3 29	23 25		15	3 14	23 26
5 x ii	16	G		7 33	16	4 30	23 23		16	4 15	23 24
	17	A		7 34	17	5 31	23 21		17	5 16	23 22
8. iii.	18	B		7 35	18	6 33	23 17		18	6 18	23 19
xi.	19	C		7 36	19	7 34	23 15		19	7 19	23 16
xix. 8.	20	D	Fast.	7 37	20	8 35	23 12		20	8 20	23 13
	21	E	. Thom	7 38	21	9 36	23 8		21	9 21	23 9
3. vii	22	F		7 39	22	10 37	23 3		22	10 22	23 4
xvi. 6	23	G		7 40	23	11 39	22 58		23	11 24	23 0
	24	A		7 41	24	12 40	22 52		24	12 25	22 53
v.	25	B	Christm	7 42	25	13 41	22 47		25	13 26	22 48
	26	C	S. Steph	7 43	26	14 42	22 40		26	14 27	22 41
1 . x ii	27	D	S. Iohn.	7 44	27	15 43	22 33		27	15 28	22 34
ii.	28	E	Innocēt	7 46	28	16 45	22 25		28	16 30	22 27
x. 7	29	F		7 48	29	17 46	22 18		29	17 31	22 20
	30	G		7 49	30	18 47	22 10		30	18 32	22 11
	31	A		7 50	31	19 48	22 1		31	19 33	22 3

December.

of the Sunne.

	☉ in ♐ 1603			☉ in ♐ 1604		
	D.	M.	D.	M.		
1	18	43	22	59	1	19 29 23 3
2	19	44	23	4	2	20 30 23 7
3	20	45	23	8	3	21 31 23 12
4	21	46	23	13	4	22 32 23 16
5	22	47	23	16	5	23 33 23 19
6	23	48	23	19	6	24 34 23 21
7	24	49	23	21	7	25 35 23 23
8	25	50	23	23	8	26 37 23 25
9	26	52	23	25	9	27 38 23 27
10	27	53	23	27	10	28 39 23 28
11	28	54	23	28	11	29 40 23 28
12	29	55	23	28	12	♑ 41 23 28
13	♑	56	23	28	13	1 42 23 27
14	1	58	23	27	14	2 44 23 25
15	2	59	23	26	15	3 45 23 24
16	4	0	23	24	16	4 46 23 22
17	5	1	23	22	17	5 47 23 20
18	6	2	23	20	18	6 48 23 18
19	7	4	23	17	19	7 50 23 15
20	8	5	23	14	20	8 51 23 11
21	9	6	23	10	21	9 52 23 6
22	10	7	23	5	22	10 53 23 1
23	11	8	23	0	23	11 55 22 56
24	12	10	22	55	24	12 56 22 50
25	13	11	22	49	25	13 57 22 44
26	14	12	22	43	26	14 58 22 37
27	15	13	22	36	27	15 59 22 30
28	16	15	22	28	28	17 0 22 23
29	17	16	22	21	29	18 2 22 15
30	18	17	22	13	30	19 3 22 7
31	19	18	22	5	31	20 4 21 57

South Declination.

In the forefoote of the centaure is a ſtar of the firſt big. Long. 18. 0′. m. Diſt. from the South Pole 29. 0′. vpon the Meridian with the North ballance.

3 Canopus in the Ship of the firſt big. Long. 4. 0′. ♋. Diſtant 38. 0′ vpon the Meridia. ſomewhat before the great Dog.

4 The laſt of Eridanus of the firſt big. Long. 10. 0′. ♉. Diſtant 50. 0′. vpon the Meridia. ½ houre after the Rammes Horne.

5 In the forefoote of the Sagitaur is a ſtarre of the 2. big. Lon. 10. 0′. ♑. Diſt 43. 20′. vpon the Meri. to Lyra.

The firſt 35. of theſe fixed Starres, their Declination is ſet downe according to their Diſtance from the Equenoctiall: the other two ſections of Stars their diſtance is ſet downe from the Poles, the firſt 7. from the North Pole, the other 5. frō the ſouth: where note, that for the time of their being vpon the Meridi. at which times they are to bee obſerued: M. ſtandes for Morning & E. for euening: their vſe followes afterward.

	♈ ♎	♉ ♍	♊ ♐	
	D. M.	D. M.	D. M.	
0	0 0	11 29	20 10	30
1	0 24	11 50	20 23	29
2	0 48	12 11	20 35	28
3	1 12	12 32	20 47	27
4	1 35	12 52	20 58	26
5	1 59	13 12	21 9	25
6	2 23	13 32	21 20	24
7	2 47	13 52	21 30	23
8	3 11	14 12	21 40	22
9	3 34	14 31	21 49	21
10	3 58	14 50	21 58	20
11	4 21	15 9	22 7	19
12	4 45	15 27	22 15	18
13	5 8	15 46	22 23	17
14	5 32	16 4	22 30	16
15	5 55	16 21	22 37	15
16	6 18	16 39	22 44	14
17	6 41	16 56	22 50	13
18	7 4	17 13	22 56	12
19	7 27	17 28	23 1	11
20	7 50	17 46	23 5	10
21	8 12	18 2	23 10	9
22	8 35	18 17	23 14	8
23	8 57	18 33	23 17	7
24	9 19	18 48	23 20	6
25	9 41	19 2	23 22	5
26	10 3	19 17	23 24	4
27	10 25	19 31	23 26	3
28	10 46	19 44	23 27	2
29	11 8	19 58	23 28	1
30	11 29	20 10	23 28	0
	♑ ♓	♒ ♌	♍ ♏	

This Table sheweth the Declination of the Sunne, vpon euery seuerall degrée of the Ecliptick, through all the foure quarters of the Zodiacke: by which Table you may make triall of the former Table of Declination, if you doubt of any part thereof: as followeth.

First, by the Kallender or Ephemerides next before, finde out the day of the month, for which you desire the Declination, and right against the same you shall haue the signe, degrée and minute, which the Sunne possesseth in the Zodiacke the day aforesaid, with which signe and degrée enter this Table, and marke whether your signe bee at the head of the Table, or at the foote thereof: for if the signe bee in the head, then you must count the degrée thereof downward, in the first Colume at the left hand of the Table: but if the signe be at the foote of the Table, you must count the degrée thereof vpward, in the first Colume on the right hand: and in the common angle, where the Carracters of the signe and the deg. thereof méetes, is the degrée and mi. of declination desired.

Example.

The second of July 1604. the place of the Sunne is 20. deg. of ♋. I finde ♋. in the foote of this Table, therefore counting 20. degrées thereof vpward,

ward, in the first Colume on the right hand, right against 20. in the Colume where ♋ standes, is 21. deg. 58 min. which is the declination of 20. deg. of ♋. of the Sunne, being in so many deg. of the same signe. But if the place of the Sunne haue odde minutes therewith, you must take the difference betwixt the 2. nerest deg. of declination, and worke by the proportionall partes, of 60. min. to a degr: as for example. The 22. of August 1601. the true place of the ☉ is 8. deg. 40. min. of ♍. I finde ♍ to be in the fute of this Table, therfore in the first Colume on the right hand, I count vpward 8. deg. and right against the same in the Colume where the Charact of ♍ is, I finde 8. deg 35. min. which is the declination of 8. deg. of ♍. but now there is the declination of 40. min. to be either added or deducted, as the declination doth increase or decrease. To finde which, I take the difference betwixt 8. 35. min. the declination of 8. deg. of ♍, and 8. 12. min. the declination of 9. deg. of ♍. which is 23. min. Then I say, if 60. min. giue 23. min. what giues 40. min? facit 15. min. 20. seconds: but omitting the seconds, because the declination doth decrease, I deduct 15. min. frō 8. 35. min. and the remayner is 8. 20. min. for the true declination of 8. degrees 40. minutes of ♍.

Againe, the 16. of April 1602. the true place of the ☉ is 5. 40. mi. of ♉. I finde ♉. in the head of the Table, then counting 5. deg. downward in the first colume on the left hand right against the same vnder ♉. is 13. 12. min. for the declination of 5. deg. of ♉. then for the 40. min. I take the difference betwixt 13. 12. min. and 13. 32. min. the declination of 6. deg. of ♉. which is 20. min. then if 60. giue 20 what giues 40? facit 13 min. 20. seconds: which 13. min. omitting the seconds, I adde to 13. 12 min. because the declination doth increase, and it makes 13. 25. min. for the true declination of 5. 40. min. of ♉. These three examples (to the ingenious) are as good as fiue hundreth.

The deuiſion, partes, order and explanation, of the former Almanacke or Ephemerides.

THe Firſt Page of the ſaid Ephemerides containes an Almanacke for 24. yeares to come, ſhewing the Prime, Epact, Sunday letter, Leape yeare, with all the principle moueable Feaſtes in the whole yeare. Next followes the 12. monthes of the yeare in order, each month containing 2. faces, which 2. faces may be deuided into 3. principall Sections: the firſt common, the ſecond and third Aſtronomicall: the firſt being indeed the common, becauſe it is moſt needfull for all perſons, conſiſteth of 5. columnes or ſpaces: the firſt ſpace whereof ſheweth the day and houre of the Mones change for 19. yeares to come: the ſecond ſheweth the number of the dayes in euery month: the third, the letters ordinary for euery day of the weeke: the fourth, the holye dayes and other dayes of note in each month: where note, that thoſe that are obſerued for holy dayes, haue this word Faſt. before them: and the fift and laſt of the ſaid firſt ſection, ſheweth the length of the day in houres and minutes, where the Pole is eleuated 51. deg. 40. min.

The ſecond ſection containeth 4 principall partes, each parte conſiſting of 3. columnes: the 4. partes being 4. ſeuerall yeares, each 4. th yeare being leap yeare, therein comprizing the variety of the Sunnes Courſe through the Zodiacke in the ſaid 4. yeares. And the 3. ſpaces or Columnes in each yeare, the firſt is the dates of each month in the ſaid yeare: the ſecond the true place of the ☉ anſwerable thereto: the third, the declination or diſtance of the ☉ from the Equinoct. pointes of ♈, and ♎. toward the tropicall poynts of ♋ and ♑ anſwerable to each day of the month, and to the degree and minute of the ☉ in the Zodiacke.

The reaſon wherefore the ſaid Table is made for 4. yeares, and neither more nor leſſe, is becauſe that euery year is not of like equalitie of dayes one with an other, for the firſt yeare hath 365. dayes and nere 6. houres, the ſecond and third yeares being ſo likewiſe: but in the 4. yeare, the od houres are vnited together, which being

being 4. times 6. is 24. houres very neere, making a naturall day, which day is added to the said fourth year, wherby the said fourth yeare is called leape yeare, because it hath one day more then his followes.

And so this Table being made for 4. yeares, would serue for a long time, were it not that the said fourth yeare is not iust 366. dayes, but wantes 20. min. or $\frac{1}{3}$ of an houre: for if there were a iust equalitie made of the dayes of the yeres, with the progresse of the Sunne through the Zodiacke, then this Table would serue a long time without correction, but onely that the Zodiacke with the whole 8. Sphere, hath a certaine retrograde motion or going backward, yet so vnsencible, that these Tables being gathered and calculated out of Euerartyes Ephemerides, for the yeres 1601. 1602 1603. and 1604. according to the true place and daily motion of the Sunne there by him gathered: I make no question, but that they will very well serue for 20. yeares at the least, the difference of the Sunnes place euery 5. yeare is so small being not much aboue 30. seconds or $\frac{1}{2}$ a mi. which in 20. yeres, being 5. Bissextiles or leape yeares, makes 2. min. 30″ a small matter to make any difference in the Sunnes declination. And for an instance of the probabilitie thereof, if you looke into the Ephemerides aforesaid, you shall finde that the first of January this yeare 1601. being the first after the last leape yeare, the true place of the Sun was in 21. 41′ 5″ of ♑.

The first of Janua. 1602. his true place is 20. 49. mi. 30″ in ♑. the first of January 1603. in 20. 54. min. 38″ of ♑. and the first of January 1624. which will be the next leape yeare, his true place will be 20. 19′. 19″ of ♑. then if you take by substraction the number of the one yeare from the number of the other, you shall finde that the Sunne is further in ♑ 1601. by 15. min. and 21″ then he will be at the same time 1602. and in 1602. more by 14 min. 52″. then he will be at the same time 1603. and in 1605. more by 15. min 19. seconds then at the same time 1604 then substracting the number of 1604. from the number of 1601 the remayner is 45. min. 32 seconds, the whole difference of the 4. yeares: but then comming to the first of Jan. 1605. which is the first after the next leape yeare,

the true place of the Sunne is then in 21. 5. min. 21. seconds of ♈. which applyed to 21. 4. min. 51. seconds, the place of the Zodiacke that the Sun was in the first of January 1601 aforesaid, you shall finde the difference to be but 30. seconds or ½ a min. which the Sun will be further entred into the signe of ♈ in the said fift yeare, and so much for the devision and order of the second Section, which sheweth the true place and declination of the Sunne for 4. severall yeares, and consequently for 20. yeares.

The third Section, being the last of the second face, containeth the Names, Magnitudes, Longitudes and Declinations of 47 notable fixed Starres, with the time of their being south: most commodious to finde the elevation of the Pole.

Propositions to be wrought by the Ephemerides or Seamans Kalender, as followeth.

To know the Moones change.

1 TO know the day and houre of Coniunction or change of the Moone, first looke in the first page of this Ephemerides right against the yeare of our Lord for the Prime Number serving to that yeare: which Number keeping in memory, turne to the month in which you desire the Change of the Moone, and in the first Colume of the said month under the title Prime, looke for the Prime Number which you kept in memory, which Prime Number are there all in numerall letters: and right against the said Prime Number in the next Colume, is the Number of the day of the Month on which the Moone changes: and if there be any figure with the Prime Number, marke whether it be before or after the said Prime Number, for if it be before, it sheweth the Moone to change so many houres before Noone, if after, it sheweth so many houres after Noone: but if there be no figures at all with the Prime Number, then the Moone changes iust at Noone. As for Example.

In the yeare 1602. I would know in June upon what day and houre of the said Month the Moone changes. In the first Page being

ing

ing an Almanacke of 24. yeares for the Prime, Epact, Dominicall letter and moueable Feastes, I finde the Prime for that yeare to be 7. which 7. keeping in memory, I turne to June, and in the first Colume thereof vnder the title Prime among the numerall letters I seeke for 7. which I finde right against the 9. day of the Month thus vii. 8. with the figure of 8. after it which sheweth that in June 1602 the Moone changes the 9. day 8. houres after Noone.

Againe, in August the same yeare, the Prime 7. vnder the title Prime in the Month of August, I finde the prime aforesaid right against the 7. day of the month with the figure 2. before it thus: 2 vii. and further against it in the 3. Colume among the letters for the daies of the weeke, is the letter B. which by reason that C. is Dominicall letter or Sunday letter for that yeare, B. standes for Satterday: so then I conclude, that in August 1602. the Moone shall change the 7. day being Satterday 2. houres before Noone, that is at 10. of the clocke in the morning.

Of the full and quarters of the Moone.

2 The next thing to be considered herein, is the first quarter, the full Moone, and the last quarter thereof which is thus done: to the time of her change, adde 7. daies and 6. houres, sheweth the first quarter, that doubled shewes the opposition or full: and there to againe the said 7. daies 6. houres added, makes the time of the last quarter.

To know what signe the Moone is in.

3 A third thing needefull to be knowne is in what signe the Moone is at all times, which may thus be done. Vpon the change day next before your day required, looke in the second section of the Ephemerides vnder the yeare desired, and the Colume of the place of the ☉. for that day and yeare what signe and degree thereof the ☉. was in vpon the saide day of the ☌. for then were the ☉. and ☾. both in one signe and deg. and to know what signe she is in any day after, multiply her age by 12. which is the meane motion of the Moone: and from the day of the ☌. in the Colume of the true place of the Sunne, tell forward, if the number be so great: out of that Month to the next till you haue tolde the Number of the pro-

duct

duct of the Moones age, multiplyed by 12. and where the said product number endes, is the signe and degree of the Moone.

Example.

The 18. of October 1601. I desire the same, in which month by the first proposition, I finde the Moone to change the 15. day at 11. a clocke at night: then in the first part of the second section shewing the true place and Declination of the Sunne for the said yeare, in the first Colume thereof I seeke the said 15. day of the Month, and right against it in the next Colume is 1. 47.′ of ♍. in which signe and deg. both the ☉. and ☾. were at the ☌. then counting from the change to the 18. day is 3. daies for the Moones age, that multiply by 12. is 36. counting from the day of the ☌. along in the Colume of the ☉. place endes upon the 19. day of the next Month being November: against which day is 7. 1.′ of ♐. therefore I conclude the Moone to be in 7. deg. of ♐. the day, Month and yeare aforesaid: otherwise if you multiply the Moones age by 2. and deuide the product by 5. the quotient shewes the whole signes and the remainer so many times 6. degrees, as the Moone is gone from that place of the Zodiacke where she was in the Conjunction.

The Moones comming to the Meridian with the time of her rising and setting.

4 Multiply the Moones age by 12. and deuide the product by 15. the quotient sheweth the houre of the Moones being South: and if any thing remaine after the deuision, for euery vnity that remaines adde 4′. because that 15. deg. make an houre of time. and 4′ a deg. That knowne, learne by the third proposition what signe the Moone is in, and then looke out in the second section what time and day of the yeare the Sunne posesseth the same signe and deg. thereof, and right against the said day in the last Colume of the first section, vnder the title, length of the day, is the length of the day, the Sun being in the same signe, houres and minutes: halfe that number of the daies length taken from the time of the Moones being south, sheweth her rising, and the said halfe added to the time of her being south, sheweth her setting.

Example

Example.

The 25. of December 1601. by the first proposition, I finde the Moone to change that month, the 14. day at noone, and the number of daies betwixt that & the 25. aforesaid, is 11. for the Moones age: therfore multiplying 11. (her age) by 12 her meane motion, the product is 132. which deuided by 15 (the degrées answering to an houre) the quotient is 8. houres, and 12, remaines, which is so many times 4. min: so I conclude the Moone to be vpon the Meridian the day aforesaid, at 8. of the clocke and 48. min. Then by the third proposition I finde the Moone to bee that day in about 20. degrees of Taurus: the Sunne being in which place, is aboue the Horizon 15. houres and some odde minutes: which 15. houres is likewise the time of the Moones continuance aboue the Horizon at that time or at any time being of the like age, and in the same signe: therefore taking halfe 15. houres (which is 7. houres and 30 min.) from 8. a clocke 48. min. the time of the Moones being South, there restes 1. houre 18. mi. for the time of her rising. Likewise adding 7. houres 30. min. to 8. houres 48. min. maketh 16. houres 18. min. from which, taking away 12. houres, because the artificial day consistes but of 12. houres, there restes 4. houres 18. min. after midnight for the time of her setting. Thus you see that the day and yeare aforesaid, the Moone shall bere in our Horizon rise at one a clocke 18. min. after noone, she shall be South or vpon the Meridian at 8. a clocke 48. min. at night: she shal set at 4. a clocke 18. mi. in the morning, and her continuance aboue the Horizon, or her shining to vs is 15. houres.

This is a very necessary thing to be knowne, for by her being vpon any other point of the Compasse, you may giue a very nére gesse at euery houre of the night.

The next thing to be considered in the first section is, the Festiuall dayes, and other dayes of note, which are so common, that they néede no explanation, only this: before euery feast which is kept holy day, is set this word Fast.

To know the length of the day, or the length of the night, with the rising and setting of the Sunne.

5 All this is performed by the last Colume of the first section:

on: thus, right against the day of the month desired, in the last Colume of the said first section, vnder the title length of the day, is the leng. of the day desired in houres and min which number substracted from 24. the length of a naturall day leaues the length of the night: and halfe the said number taken from noone, leaues the houre of the sunnes rising, the other halfe of the day added to noone sheweth the sunne setting.

Example.

The 20. of October this present yeere 1601. vnder the title leng. of the day, right against the said 20. day is 9 houres 36. minutes, the length of the day: the which 9. houres 36′. taken from 24 houres, leaues 14. houres 24. mi. for the length of the night. Then the halfe of 9. houres 36′. which is 4. hou 48′. taken from noone, leaues 7. ho. 12′. for the sunne rising. The same 4. ho. 48′. added to noone, makes 16. ho. 48′. which is 4 hou. 48. mi. after noone: by which you see that the 20. of Oct. the length of the day is 9 ho. 36. mi. the length of the night 14. ho. 24. min. the sunne rises 12. min. after 7. in the morning, & setteth 48. mi. after 4 in the Euening.

Thus much for the first section: the 2. section being 4. parts, serving for 4. seuerall yeeres, euery part hauing 3 columes: the first, the day of the month: the 2. the true place of the Sunne: and the 3. the declination of the Sunne agreeing thereto: all the 3. parts being of like quallity, which are so plaine and so commonly knowne, that they neede no further distinction: albeit that the vses therof are manifolde, and the commodities excellent: for there are few propositions concerning the Spheare, which can bee wrought without the true place of the sunne knowne, & being so much vse for it, there are as few meanes for the true knowledge thereof, but onely by the Epheme. which euery one cannot haue.

And for that cause haue I transferred the true place of the Sun in degrees & m. out of Martin Euerarties Ephemerides into this former Kalender, where it is ready for such as desire the same, or as haue occasion to vse the same, in working conclusions, or making of Instruments Mathematicall: but most chiefly I haue heer placed it, to the end that those that stand in doubt of the truth of these Tables of the Sunnes declination, may at their owne pleasure

make

vnke to all thereof, the order how to vse the same, is set downe in the first printed page after the said Tables, for by the true place of the Sunne is found his Declination, eyther Northward or southward, and by his declination, and obseruation of the Sunnes Altitude vpon the Meridian, is knowne the height of the Pole or Latitude of the place where you are.

How to vse the Sunnes declination, thereby to finde out the Eleuation of the Pole.

5 To finde out the Altitude or height of the Poles, in any seuerall Latitude, viz. How much the Pole is rayſed aboue your Horizon in degrées and minutes: it is necessary first to take by obseruation, the Meridian Altitude of the Sunne: which Meridian Altitude is knowne by taking the height of the Sunne, that day in which you would obserue iust at noone: at which tyme the Sunne is highest, being then also vppon the Meridian: which found, note it downe in Paper or slate, then knowing the yeare of our Lord, with the month in which you are: and also the day of the month. Looke in the Kalender before spoken of, for the month and day thereof, and right against the said day of the month, towards the right hand, vnder the tytle Declination of the Sunne, you shall see the seuerall yéres, which the sayd Tables of Declination serue for: if it bée the first yere after the leape yere: looke in the first of the sayd foure Tables vnder the yere 1601. because that is the first yére from 1600. which was the last leape yére. If it bée the second yére after the leape yére, then resort to the second of the sayd Tables, vnder the yére 1602. and so of the third: but if it bée leape yéres, séeke your demaund in the last of the sayd Tables, vnder the yére 1604. and after those foure yéres are past, come backe againe to the first, and proceede as you did before: then (as I sayd) hauing found out the month, day and yére, direct your eye downward toward the foote of the table, in that Table which serues to the yeare proposed, till you finde

find a number making a right Angle, with the day of your month: or more plainly, looke what number in the last Colume of your yeare is right against the day of your month, which nũbers are the Declination for the day desired: and being two numbers in the said Colume, the first are degrees, the other minutes, then regard also whether the Sunne hath North declination or South declination, which is set down betweene the seuerall spaces: where by the way you shall note, that from the Sunnes entrance into Aries, which is the 11. of March, till his entrance into Libra the 13. of September, he hath North declination, and from the sayd 13. of September till his entrance into Aries againe, South declination, the said declination encreasing according to the Sunnes progresse through the signes from his entrance into Aries till his entrance into Cancer: and decreasing from Cancer to the beginning of Libra. Then againe, encreasing from Libra to Capricorne, and decreasing from Capri. to the end of Pisces and beginning of Aries. Aries, Taurus, Gemini, Cance, Leo and Virgo, being signes hauing North declination from the Equinoctiall Circle, and Libra, Scor. Sagitarius, Capricorne, Aquarius and Pisces, South signes, hauing South declination from the said Circle: then knowing (as I haue said) the Meridian Altitude of the sunne, the Declination of the sunne, and whether the sunne hath North or South Declination: as these three thinges are alwaies to be considered, in knowing the height of the Pole. If the Declination be North, subtract the Declination from the Meridian Altitude, the remainer is the elenation of the intersection, or cutting of the Equinoctiall with the Meridian aboue the Horizon, which in common termes is the elenation of the Equinoctiall aboue the Horizon: which height of the Equinoctiall, taken from 90. leaueth the height of the Pole, or the Latitude of the place of your obseruation. But contrariwise, if the sunne hath south Declination, adde the said Declination to the Meridian Altitude, the product is the height of ẏ Eqninoctial, which likwise taken from 90. leaueth also the height of the Pole.

Example.

I obserued the 11. of July 1601. in the City of London, and found the Meridian Altitude of the sunne to be 58. degrees 51. mi.

and

and the Declination of the sunne North 20. degrees 31. mi. Being that the Declination was North, I substracted 20. degr. 31. minu. the Declination of the sunne from 58. degr. 51. min. the height of the sunne at noone: the remainer was 38 degr. 20 minu. the height of the Equinoctiall: that taken from 90. leaues 51. degr. 40. minu. for the height of the Pole or Latitude of London.

This rule is to be vnderstood, when you are betweene the Equinoctiall and the north Pole, and the sunne to the southward of you: but if you should be betweene the Equinoctiall and the south Pole, and the sunne north from you: Then must you worke contrary, for then if the sunne hath south Declination, you must substract the Declination from the Meridian Altitude, and if the sun hath North Declination, you must adde the said Declination to the Meridian Altitude.

For example.

Being at Sea to the southwards of the Line the 4. of January 1601. suppose that you obserue the height of the sunne at noone, and finde it to be 66. deg. 20 min. then you shall finde the Declination to be 21. degr. 19. min to the southwards, which substracted from 66. degr. 20. min. the Meridian Altitude leaues 47. degrees 1. minu. for the height of the Equinoctiall, that taken from 90. resteth 42. degr. 59. mi. for the height of the South Pole aboue the Horizon.

Againe, suppose that being at Sea the 10. of May 1601. and obseruing the sunne, you take his Altitude at noone 60. degr. 30. mi. and his declination then is 19. deg. 58. min. Northward, but then not hauing obserued long before, you know not whether you are to the Northward of the Equinoctiall, or to the southward of the said lyne: to know which, set the sunne by your compasse, and marke which way the shaddow of the sunne striketh, for if hee casteth his shaddow the same way that his Declination is, then is the sunne betwixt the Equinoctiall and you. Your selfe being also the same way that the sunnes Declination is: and therefore subtracting the Declination 19. degrees 58. min. from 60. degrees 30. min. the Meridian Altitude resteth 40. degr. 32 min. the height of the Equinoctiall: the complement whereof 49. degr. 28. min. is

the

the Elevation of the North Pole: but if the Sunne castes his shaddow contrary to his Declination: that is to say, if having North Declination, his shaddowe goeth Southward, or having South Declination, castes his shaddow Northward: then eyther the Equinoctiall shall bée betwixt you and the Sunne, or you in the Equinoctiall: or else you shall bée betwixt the Equinoctiall and the Sunne: which to know, adde the Declination and the Meridian Altitude for the day proposed together, if the summe of the addition bée lesse then 90. degrées, so much as it wanteth of 90. degrées, shall you bé dystant frō the Equinoctial, that way which the shaddow straketh: if it bée iust 90. deg. then are you vnder the Equinoctiall. Againe, if your said Meridian Altitude and Declination added, passeth 90 deg. then so much as is the ouerplus, shall you be from the Equinoctial towards the sunnne, & then also you shal be betwixt the Equinoctiall and the Sun: and if you finde the sunne to bée in your Zenith, so much as is the Declination, shall you bé from the Equinoctial, that way that the sunne declineth: by which reason, if the sunne be in your Zenith, that is 90. degrées high, and hath no declination, then are you vnder the Equinoctiall.

How to appropriate the tables of Decli. to any other Meridian.

There is in the vsing of the sunnes declination, one principall thing to be considered: which is, that a table of declination made for any perticular place, doth not serue generally for all places, but onely for such places as haue the like, or nére the same Longitude: the reason is, because that the Declination is calculated according to the true place of the Sunne at noone, at which time the Sunne is vpon the Meridian of that place for which the sayd Tables are made: but you must note that the Sunne doth not come to the Meridian in all places at a like time, although that in all places the Sunne being vpon the Meridian, makes the middle of that day. But for euery 15. degr. difference of Longitude, betwéene any two places the Sunne comes sooner or later to the Meridian, by so many houres: for if the place be 15. degrées to the Eastward of the place prefired, then the Sun comes sooner to the Meridian by one houre: and if it bé 15. degrées to

the

the Westward later by an houre. And so consequently more or lesse, according to the difference of Longitude. By which reason, in what part of the world soever you bee, you may worke for the Declination of the Sunne in that place, by the proportional parts of 24. houres declination, to the hou. of difference in Longitude.

As for example.

Being in Brasilia (a part of the West Indies) the 10. of Aprill this yeare 1601. whose Meridian is distant from the Meridian of England, to the Westward about 45. deg. which is 3. houres of time, that the sun should come to the Meridian later there then heere at London, where this table is made: for when it is 12. a clocke heer it is but 9. there, & being noone there it is 3. a clock heer. Therefore to apply this Table to that place, I find the declination for ỹ day aforesaid, vnder our Meridian to be 11 degr. 30. mi. at noone, & by reason that when it is 12. a clocke at Brasilia, it is then at London 3. houres past. Therfore by the rule of proportion, I seeke what declination the sun hath at 3 a clock after noon, as followeth. I take the difference of declination betweene the day aforesaid, & the next following, which is 21. min. then I say by the rule of 3. if 24. hou. giue 21'. what giues 3. hour. the time of the difference of Longit. facit 2'. and 15''. which (because the declination increases) I ad to the number of the day proposed: so I conclude, the declination of the sunne to be the 10. of Aprill at noone in the kingdome of Brasilia 11. deg. 32. mi. omitting the''.

Againe, the day and time aforesaid in the Bay of S. Sebastian, whose Longitude is 58. degrees to the East ward of London, answering to neer 4. houres of time, shewing that the Sunne comes sooner to the Meridian in the sayd Bay of S. Sebastian by 4. houres then at London: by which reason the Declination is lesse there then at London, because the Declination doth increase, for if the Declination did decrease it would bee more there then at London: and to know the Declination of the Sunne in the Bay aforesayd, I take the difference betwixt the Declination of the 10. of Aprill, & the declination of the day next before being 20. min. then I say, if 24. hour. giues 20'. what 4. hour. facit 3. min. which deducted from 11. degr. 30. mi. the declination of the sun the 10. of

Aprill

Aprill aforesaid at London, leaueth 11. degrees 27. min. the Declination of the sunne at noone, in the Bay of S. Sebastian, being that when it is 12. of the clock there, it is but 8. a clock at London, or in any place, hauing the same Longitude.

How to obserue the height of the Pole

by the Starres.

THe working hereof by the starres, to finde the height of the Pole, is all alike with the working thereof by the Sunne, for if you obserue any starre vpon the Meridian, looke in the third or last section of the Ephemerides, amongst the months for the name of the starre which you obserued, wherewith you shall find his Longitude and Declination, either North or South, with the time of their comming to the Meridian: but hauing taken the Altitude of any starre vpon the Meridian, you haue nothing to marke in the Table for this but the Declination, which if it bee North, take the Declination of the starre from the height thereof, the remainer taken from 90. leaueth the height of the Pole: but if the starre hath South Declination, adde the Declination with the Altitude taken, and the product thereof taken from 90. leaues the height of the Pole also.

Example.

The 25. of November 1601. I obserued a starre of the 2. bignes, in the wing of Pegasus or the Flying horse, about 8. of the clock in the euening and found the Meridian altitude thereof to bee 50. degrees, 50. mi. and in the Month of January, in the 2. Face thereof I finde the said starre to haue 12. deg. 30. ′. North Declination: which taken from 50. 50 ′. the height obserued leaues 38. degrees 20. ′. the height of the Equinoctial: the Complement whereof 51. degr. 40. min. is the height of the North Pole at London.

And so consequently for all those Stars whose Declination is taken from the Equinoctiall: but for those starres which are any thing neere to the Pole, whose distance or Declination is counted

ted from the Pole, their working is thus: you must note that being any thing farre to the Northward, some of those stars will be twise vpon the Meridian, viz. once aboue the Pole, and once vnder the Pole: therefore if you obserue any starre vpon the Meridian vnder the Pole, adde the distance of the sayd starre from the Pole to your Altitude obserued, the totall is the height of the pole: but if you obserue any Starre vpon the Meridian aboue the pole, so much as is the distance or Declination of the sayd Starre from the Pole, must you take from the Altitude taken, the remainer is the height of the Pole.

As for example.

If at London you obserue the former Guard Starre beneath the Pole vpon the Meridian, you shall finde it to be 37. deg. 29. mi. vnto which if you adde 14. degr. 11'. the distance of the sayd starre from the Pole, the totall is 51. deg. 40. mi. the height of the North Pole at London. Againe, the same starre obserued vpon the Meridian aboue the Pole, is 65. deg. 51'. from which 14. deg. 11'. the distance aforesaid taken, leaueth 51. deg. 40'. as before.

Note, that being farre Northward, those starres betweene the Equinoctiall and the Tropicke of ♋. are best to obserue, and being betweene the said Tropicke and the Equinoctiall, those stars about the Pole are fittest for obseruation, and for those that trauell far beyond the lyne, to the Southwards: the like order must be kept by the Starres, betweene the Equinoctiall and the Tropicke of ♑. and those that are nere the south Pole.

To finde the distance betweene any two places, knowing the Longitude and Latitude of them.

IF the two places differ onely in latitude, then are they both vnder one & the same Meridian, & to know the distance betwixt thē in miles or leagues, multiply the number of the degr. of difference, by 60. miles, or 20. leagues, the product of which multiplycation giues the true distance betweene them, in miles or leag. according as you work them, being that 60. miles or 20 leag. make one deg. of a great Circle: but if the one place haue North Latitude, and

the other South: then adde both their Latitudes together, and worke as aforesaid: and if both the places are vnder the Equinoctiall, then haue they no Latitude: and there likewise 60. miles, or 20. leagues makes 1. deg. and the working is like the former, if the difference be vnder 180. deg. for if the difference be more then 180. substract the said difference from 360. & multiply the remainer by 60. or 20. as afore.

These are so plaine and easie, that they néede no examples: but if they differre both in Longitude and Latitude, or in Longitude onely, in any parralel beside the Equinoctial the working is somwhat more difficult, by reason that the further the paralels are distant from the Equinoctiall towards eyther of the Poles, the shorter they are, and the shorter the paralels are, the fewer minut. or miles answer to a deg so that whereas in the Equinoctiall 60'. or miles make a degr. in our paralell where the Pole is raysed 52 deg. 37'. make one deg. viz. one deg. in the Lati. of 52. in running East or West answers to 37. miles: for which purpose, as also for diuers necessary vses, I haue héere added a Table, shewing the miles of distance and min. of time, answerable to a degr. in euery seuerall deg. of Latitude, from the Equinoctiall towards either of the Poles. And when you know ỹ miles answerable to a de. in the paralell desired, if the difference of the 2. places be onely in Longi. multiply the difference of their Longi by the number of miles, answerable to a degrée, and the product sheweth the distance in English or Italian miles, betwixt the said 2. places.

Example.

London and Middleborough haue both (in a manner) one Lati. viz. about 52. degr. and I finde in this Table, that in the parralell of 52. 37. miles make a degrée of Longitude, the Long. of London is 25. degr. 50. min. and the Longi. of Middleborough is 29. degr. 40'. which substracted one from another, leaues 3. degr. 50. mi. for the difference of Longitude, then multiplying 3. degr. by 37. miles, the product is 111. miles: then for the 50. mi. I say by the rule of 3. if 60. min. giue 37. miles, what gines 50. mine facit nére 31. which added to 111. makes 142. miles, or 47. leagues, & a mile for the distance betwixt London and Middleborough.

Deg. of Latit.	Miles to a de.	Deg. of Latit.	Miles to a de.
0	60	60	30
10	59	61	29
15	58	62	28
18	57	63	27
21	56	64	26
24	55	65	25
26	54	66	24
28	53	67	23
30	52	67	22
32	51	69	21
34	50	70	21
35	49	71	20
37	48	72	19
38	47	73	18
40	46	74	17
41	45	75	16
42	44	76	15
44	43	77	14
46	42	78	12
47	41	79	11
48	40	80	10
49	39	81	9
51	38	82	8
52	37	83	7
53	36	84	6
54	35	85	5
55	34	86	4
57	33	87	3
58	32	88	2
59	31	89	1

But if the 2. places differre both in Longitude and Latitude, then is the working more difficult then eyther of the former: for first you must take the difference of the 2. places, in Long. & then their difference also in Lati. and multiplying the degr. of their difference in latitude by 60. set the product thereof by it self, for the first number: then multiply the difference of Longitude, by the number of miles, answerable to each latitude severally, and adde both the products together: the halfe wherof set downe for your second number, and multiplying each of these said 2. numbers into it selfe squarely, then adding both the products together, and extracting the square roote thereof, the said square roote is the distance of miles, betwixt the 2. places desired.

As for example.

To goe directly in a right lyne, from Callice in Fraunce to Constantinople in Gretia: I finde by the Tables following, that the Longit. of Callice is 29. degr. 10'. and the latitude thereof 50. degr. 40. min. Also the longitude of Constantinople is 61. degr. 20'. and the latitude 44 deg. 40. min. then subtracting the lesser Longit. from the greater, the difference of longit is 32. deg. 10. mi. Also I take the one lati. from the other, & there restes 6. deg. for the difference thereof: which 6. deg. multiplyed by 60. miles, produceth 360. miles for the distance betwixt the parralell of Callice, and the parralel of Constantinople. Now for the distance betwixt Callice and the Meridian of Constantinople, I multiply 32. degr. 10. min. the difference of longit. by 38. the miles answerable to a deg. in the parralell of Callice, and the product is 1222 miles, then I multiply 32. deg. 10.

Constant. 61. de. 20. mi. } Lo.
Callice 29. deg. 10. min. }
Difference 32. de. 10. mi. Lo.

Callice 50. deg. 40. min. } La.
Constan. 44. deg. 40. m. }
Difference 6. deg. 0. mi. La.

10.mi.the aforesaid difference of Longitude, by 42. the miles answering to a deg. in the parralell of Constantinople, which product being 1351. miles, is the distance betweene Constantinople, and the Meridian of Callice: those two distances added together make 2573, the half wherof being 1286, is the meane distance betwixt the Meridians of the said two places: so haue you two numbers viz. 360. miles, the distance that the parralell of Constantinople is to the southwards of Callice, and 1286. miles the distance that Constanti. is to the Eastward of the parralell of Callice: therefore if you multiply 360. into it selfe, the product is 129600. and likewise multiplying 1286. into it selfe, the product is 1653796. which both added together make 1783396. the square roote of which number is the distance desired: which to helpe those that are not perfect in extraction of rootes, I haue heere set the working thereof as followeth, viz.

1 2 2 2.
1 3 5 1.
2 5 7 3
1 2 8 6.

1653796
129600
1783396

First I set downe the proposed number, with a quotient, and vnder the last figure I put a pricke: and so likewise vnder each other figure toward the left hand, leauing betwixt each pricke one figure vnprickt: so haue I vnder this number 4. prickes, signifying that the roote must consist of 4. figures, and to find them out, I seeke what is the greatest Square number, ouer the first pricke, which is 1. therefore I put 1. in the quotient for the first figure of the roote, and cancell the figure ouer the first pricke: then to finde the 2. figure of the roote, I multiply the quotient by 20. which being 1. doth neyther multiply nor deuide: therefore I seeke how often 20. is contained in 78. the number of the second pricke, which you must take no oftner then that the square of the said number being added therewith may bee likewise taken therefrom: so I see that 3. times 20. is 60. and the Square of 3. which is 9. added thereto, is 69. therefore I put 3. in the quotient, and taking 69. from 78 the number ouer the 2. pricke leaues 933. to the third pricke; Then for the third figure of

1783396|1
1
20
1
20

the

the roote, I multiply 13. the quotient by 20. the product is 260. which I seeke how often it may be taken out of 933. and I finde that 3. times 260. is 780. wherevnto the square of 3. being added makes 789. therefore I put 3. in the quotient, and substracting 789. from 933. rests 14496. for the fourth pricke: then for the last figure of the roote, I multiply 133. the whole quotient already found, by 20. and the product is 2660. which may be taken 5. times in 14496. for 5. times 2660. is 13300. vnto which 25. the square of 5. added, makes 13325. therefore I put 5. in the quotient, for the fourth and last figure of the roote, and making my substraction as afore, the worke will stand as you see, by which you may know the square roote of the proposed number to be 1335. and very neere. So I conclude the true distance betweene Callice and Constantinople to bee 1335. miles, and neere halfe a mile: for those which cannot the extraction of rootes, they may finde the order thereof, in a Booke called the Pathway to knowledge: and also in M. Blundiels exercises, but because this manner of extractions is different from them, I purpose by Gods grace to set foorth the same at large, in the sayd Pathway, at the next impression thereof.

9
1783396 | 13
169
20
13 3
20
60
260 9
3
69
789
1
944
1783396 | 133
169
789
133
20
2660
5
13300
11211
94491
1783396 | 1335
169
789
13325

The ingenious Mariner may sayle by knowing the true Longitude and Latitude of places, to any place assigned, as well as by his Sea Carde, by the helpe of the Trauerse booke and a Protractor, in this manner: First vpon the booke or paper lyned with Meridians and parralels, or to them that can make a right Angle vpon any pricke or point, a sheete of cleane Paper is sufficient to keep a Trauerse vpon: To know your course from the place where you are, to any other place assigned, as I say, vpon your

10.mi.the aforesaid difference of Longitude, by 42
swering to a deg.in the parralell of Constantinople,
being 1351.miles, is the distance betweene Cons
the Meridian of Callice: those two distances added
2573, the half wherof being 1286. is the meane
distance betwixt the Meridians of the said two
places: so haue you two numbers viz. 360.
miles, the distance that the parralell of Con-
stantinople is to the southwards of Callice, and
1286. miles the distance that Constanti. is to the Ea
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the product is 129600. and likewise multiplying
selfe, the product is 1653796. which both added t
1783396. the square roote of which number is
the distance desired: which to helpe those that
are not perfect in extraction of roots, I haue
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1653796
129600
1783396

First I set downe the proposed number
with a quotient, and vnder the last
put a pricke: and so likewise vnder ei
figure toward the left hand, leaving
each pricke one figure vnprickt: so ha
der this number 4. prickes, signifying
roote must consist of 4. figures, and to f
ont, I seeke what is the greatest S
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figure of the roote, and cancell the fi
then to finde the 2. figure of the roo
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60. unto which 5. the
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fourth and last figure

of the roote, and making my subtraction as a-
fore, the worke will stand as you see, by which
you may know the square roote of the propoſed
number to be 1335. and very neare. So I con-
clude the true difference

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Callice and
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sereteles, but
rtions is diffe-
Gods grace to
the sayd Path-
treof.

9		
1783396		13
169		
		20
	13	3
	20	
		60
	260	9
	3	
		69
	789	
	1	
	944	
1783396		133
169		
789		
		133
		20
		2660
		5
		13300
XXII		
94471		
1783396		1335
169		
789		
13325		

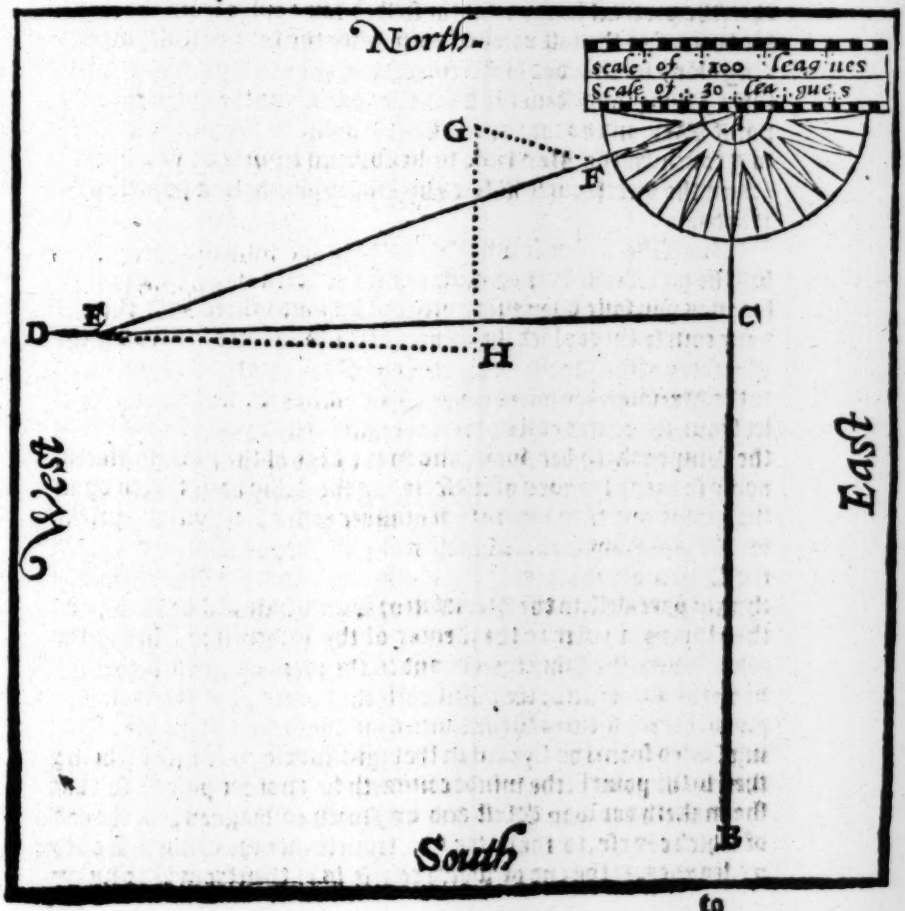
ray sayle by knowing the true Lon-
es, to any place assigned, as well
e helpe of the Trauerse boord and
e. First vpon the boord or paper
rakels, or to them that can make a
right Angle vpon any pricke or point, a sheete of cleane Paper is
sufficient to keep a Trauerse vpon: To know your course from
the place where you are, to any other place assigned, as I say, vpon
your

your boord or paper make a pricke for the place where you then are, and from the said pricke drawe a right lyne to represent the Meridian of the same place, then placing the Center of the protractor vpon the sayd pricke, lay the North or South point of the Fly or Protractor, as the place beareth vpon ỳ lyne ready drawne. Then by the last Chapter learne the distance of miles betwixt the place where you are, and the parralell of the place you are bound to: or more briefly, what portion of the Meridian is comprized betweene the latitude of the 2. places, that distance by the scale of the Protractor apply to the Meridian by you drawne, and where the distance endes draw another lyne square or at right angles to the other, eyther East or west, as the scituation of the place assigned requireth; and by the former Chapter learne the distance betwixt the Meridian by you drawne, and the meridian of the other place assigned: which knowne, by your scale apply that distance to your lyne of East or West, and where that number of distance ends, make another pricke for the true scituation of your place assigned: then laying a thrid or ruler from the Center of the protractor, being the place where you are, and extending it to the other pricke last made, the edge of the ruler or lyne shewes vpon the protractor, the point of the compasse, that the place assigned beares from the place where you are: and the scale applyed to the said lyne or edge of the ruler, shews the distance: also the distance may be knowne by extracting the square roote, as is before shewed: an example of this, and for the vse of the trauerse boord, and so an end.

A Ship being at the Lyzard, in the Southwest parts of England, whose longi. & latit. I finde in the Table following to be 18. deg. 30. mi. and 50. deg. 10. min. is bound for an Iland in the Ocean Sea called Maida, whose longi. I finde in the same Table to be 2. deg. 40′. and lat. 46. deg. 40. min. the difference of their lati. is 3. degr. 30. min. which is 210 miles, or 70. leagues: therefore from the pricke or point A. I draw the lyne A. B. in the trauerse boord here adioyning, and vpon the point A. I place the Center of the protractor, being one halfe of the Mariners Compasse: the middle point whereof representing the North or south, as occasion serues,

I lay vpon the lyne A.B. and applying 70. leagues, whereof the scale on the edge of the Protractor, containe 100. from A. towards B. where the said 70. endes, I make a pricke marked with C. so is A.C. 70. leagues, the distance betwéne the Lyzard and the Parrallell of Mayda: then from C. I draw the lyne C.D. at right angles,

The Tipe of a Trauerse boord and a protractor.



to

to A.B. and by the former Chapter I finde the distance betweene Maida, and the Meridian of the Lyzard to be 629. miles or 209. Leagues, and two miles: which by the scale aforesaid applyed to the lyne C.D. at the end of the said distance, I set a pricke marked with E. so is the lyne C.E. 209 ⅔. leagues, the distance that Maida is to the Westward of the Meridian of the Lizard, or the lyne A.B. then the protract lying as at the first, I lay a ruler from the Center thereof, to the last pricke E. and with the former scale, measuring along by the edge of the ruler from A. the first pricke, to E. the last: I finde the distance to be 222. leagues, and the ruler cuts the point West and by south, and halfe a point to the Southwards: so I conclude the Ile Maida to bee distant from the Lyzard 222. leag. the direct course West & by South, and halfe a point southwards.

But if the winde scant or be contrary, so that you cannot saile by the direct course, then must you keep a reckoning how many leagues you saile vpon euery other point, and where you change your course, there place the Center of the Protractor, keeping the Meridian of the North or South lyne of the Protractor parralell, to the Meridian drawne on the Trauerse boord, and laying a ruler from the center of the protractor, along that point vpon which the Ship maketh her way, and to the edge of the ruler so placed, apply so many leagues of the scale, as the Ship hath sayled vpon that point, and then where that number endes, if you set a pricke for the place where the Ship then is, and vpon that pricke place the Center of the protractor, laying as before the middle poynt thereof parralell, to the Meridian or South lyne first drawne, and then laying a ruler to the Center of the Protractor, being the place where the Ship then is, and to the place assigned, it shewes vpon the Protractor the point how they beare, and the scale applyed thereto shewes the distance, as in the former example: hauing sayled from the Lyzard, in the right course 50. leagues, being then in the point F. the winde commeth to another point, so that she maketh her way West and by North 40. leagues, at the end of which course, is the letter G. from thence she runneth South 75. leagues, at the end of which course is H. then from H. to know

the

the distance, & what course must be kept to ỹ prefixed place of Maida marked with E. I. place the Center of the Protractor upon H. and the middle point of the Fly, which is then the North point parralell or equidistant, to the first lyne *A. B.* which so placed, I lay a ruler from the Center thereof to E. and the course is West and halfe a point to the North 125. leagues.

Note that it is necessary to haue vpon your protractor 2. seuerall scales, a greater and a lesser: for the greater the scale is you keep your reckoning by, the truer shall your account be.

Caracters of the xii. signes.

♈	♉	♊	♋	♌	♍	♎	♏
Aries.	Taurus.	Gemini.	Cancer	Leo.	Virgo.	Libra.	Scorpio.

♐	♑	♒	♓
Sagitarius.	Capricor.	Aquarius.	Pisces.

Carracters of the vii. planets.

Saturne.	Iupiter.	Mars.	Sol.	Venus.	Mercury.	Luna.
♄	♃	♂	☉	♀	☿	☾

Dragons head. ☊ Dragons tayle. ☋

Aspectes,	Coniunction,	Opposition.	Trine.	Quartile.	sextile.
	☌	☍	△	□	*

Minutes, ′ seconds, ″ Thirds, &c. ‴

A declaration of the Tables of Longi. & Latit. of places following.

The Tables hereafter following, shewing the Longitude and Latitude of places, viz. of Kingdomes, Prouinces, Cities, Iles, Capes, Bayes, Riuers, and Mountaines: especially the most principall of them in the whole world, are gathered from the latest descriptions, Maps & charts, as wel vniuersal as particular: who albeit that they differ greatly in Longi. yet in Latit. most of them agree: and also, hauing a respect to the beginning of each of their seuerall Long. they come all to a nere agreement: for some beginning their Longitude at the westermost part of Africa, make the Longi. of London to be about 10. degr. 20. mi. others beginning at the Canary Ilands, make the Longitude of London 18 deg. others more west ward, make it 19. deg. 30'. and Iodocus Hondius beginning the Meridian at the Ile Pico one of the Azores, makes London to be in Long. 27. deg. 40. mi but I following M. Emery Mullineux, according to his great Globes, doe account the Long. from the Westermost part of S. Michaels, another Ile of the Azores: the midst of which Ile is 56 min. in Longi. and from the Westermost part thereof, the longitude of London is 25. de. 40. mi. which in effect is not much different from any of the others: note that the longi. is counted from the Meridian, passing ouer the aforesaid place Eastward in a continuall progression, to the ende of 360. which is the whole circumference of the world. Latit. is counted from the Equinoctiall to the end of 90. degr. on each side thereof: and where the letter S. is after any number, it shewes that place to haue so many degr. and min. of South Latit. all the rest hauing no letter adioyning haue North Latit. the whole being set in Alphabeticall order, for the readyer finding of any place therin contained: and where the longit. and latit. of any Kingdome is set downe, noted by this sillable reg. it expresseth the middle thereof: further, at the end of such places as begin with one Letter, is left a space wherein the Traueller may insert such places whereof the longi. and latitude is to him knowne, and not herein expressed.

A table

A table of the Longitude and Latitude of all the notable places of the world.

A	Longi.	Latitu.		A	Longi.	Latitu.	
Aberdein	22 21	57 21		alguecet	63 41	26 51	
Abo	47 51	61 1		alicante	28 41	39 1	
Abragaima	156 1	32 41		alicoa	76 41	13 21	s
Elabrigo	187 11	3 29	s	alicur	44 21	38 29	
Acapulco	276 1	18 1		alima	108 51	31 1	
acartii an Iland	329 1	52 1		alleluia	70 21	10 1	
azores an Iland	357 1	39 1		almedina	34 1	33 41	
aden	82 1	13 51		almiria	26 11	37 21	
adia	50 11	25 1	s	alpes a mountay	41 29	47 29	
adu	105 41	5 41	s	alsigubas	147 11	38 41	
Aegipt	64 1	30 1		amazen	45 29	12 41	
africa reg	40 1	10 1		amazons reg	323 1	13 1	
agonara	162 21	38 1		Las amazona	312 29	12 29	s
agragam	144 39	8 21	s	ammon	59 41	27 11	
aguada	173 51	7 51	s	amsterdam	33 1	51 29	
aguada segura	253 29	24 1		anasi	19 15	33 1	
aguada depozos	245 21	28 1		anarie a mount	116 1	54 29	
alany a mountai	98 41	54 21		ancona	63 11	1 11	
alacranes	283 1	22 1		ancona	43 29	43 51	
alagoa	58 41	29 41	s	andernopoly	58 11	44 41	
albion noua	235 1	50 1	s	S.andra	170 29	12 1	
albiron	109 29	25 29		S.andre	22 11	56 21	
albofera	37 21	8 1		S.andreas	62 11	61 11	
alboram	25 29	35 29		Las anegadas	296 0	50 1	s
albrough	27 25	52 29		angiers	24 41	47 35	
alepo	72 29	38 1		angleſey	19 51	54 0	
alcada	23 1	40 29		anglia reg	23 0	53 0	
alexandria	65 1	31 21		angoleſme	27 1	46 0	
alexandria	106 51	36 21		angote reg	67 1	1 6	
algazin	16 0	29 1		annbily reg	134 11	63 0	
algiery	33 1	35 21		antiochia	72 30	39 0	

A	Long.	Latit.		A	Long.	Latit.	
Antiochia.	300 50	6 40		Ayaman reg.	82 0	25 0	
Antipara.	74 20	35 20	S.	Azabar.	75 30	51 20	
Antwerpen.	31 20	50 30		Azamor.	18 30	32 40	
Apamia.	61 30	43 40		Azafy.	17 15	32 10	
Aqualega.	864 40	9 50	S	Azura mountai.	59 0	22 40	
Ara.	14 20	55 10		Azzeil.	62 40	1 30	S
Arabia felix.	83 0	21 0		Albrough.	27 25	52 30	
Arabia defert.	77 0	20 0		Amiens.	28 30	49 40	
Aracam reg.	132 0	25 0		Aragon.	26 0	42 0	
Ardaguy.	136 20	5 10	S	Angiers	24 40	47 35	
Aren.	76 10	5 10					
Argell.	84 30	15 0					
Arglas.	16 30	54 20		B			
Armenia reg.	76 0	41 0		Babilon.	82 20	33 0	
Arnaltas mon.	35 0	11 30	S	Babell mandel.	80 0	12 50	
Aſcention.	353 20	18 50		Bachu.	88 50	42 0	
La aſcention.	15 30	8 0	S	Bachnapa.	72 0	4 0	S
Aſcention.	290 30	29 30		Bactriana reg.	115 0	38 30	
Aſia reg.	130 0	55 0		Badaios.	19 40	38 30	
Aſmerey mont.	137 0	50 0		Bafar.	52 20	21 40	S
Aſpeſa.	52 15	44 20		Bagaſus a lake.	77 10	50 40	
Aſpezi mont.	100 0	50 40		Baharam an Ile.	87 20	27 30	
Aſiria reg.	85 0	36 0		Bayes.			
Aſtapus fluui.	64 0	4 0		Bay anegada.	319 50	40 20	S
Aſuga.	66 40	7 20		b.de baxos anegados.	321 30	39 50	S
Atacama.	303 30	32 0	S				
Atalaya.	283 0	20 10		Buena baya.	190 20	4 40	S
Atalaia.	291 0	29 40		b.de los condos.	320 20	43 0	
Atalaia.	27 50	6 20		Baya dalagoa	56 10	32 10	S
Ataualo.	298 10	1 30	S	Bay de fumos	240 20	36 0	
Athens.	56 10	40 0		b.de gent grand	303 0	54 0	S
Auero.	17 30	41 10		Bay hermoſa	54 20	32 40	S
Auguſtin.	293 0	29 50		B.S. Iohan	309 40	40 30	
Auignon.	32 40	44 40		b.de S.migell	39 30	8 40	S
Aulona.	51 20	41 40		b.Orſinora.	312 30	41 0	
Ausburgh.	38 40	48 30		Bay de pinos	233 0	40 30	

b.de

B	Long.	Latit.	B	Longi.	Lati.
b.de saluadges.	344 0	20 0 s	blaues	31 10	42 0
b.de S. Sebastian	83 20	13 20 s	blauet	21 15	47 50
			bloe	5 30	67 0
Bayda reg	126 0	65 0	borno regnum	48 30	17 10
bayona.	17 20	42 10	borntholme	40 50	55 30
bayone.	25 30	44 0	bouenbergen	34 20	56 30
balgada.	69 30	5 0	brandenberg	42 30	52 50
baliera	82 40	31 10	brasill	5 10	51 20
bamberg	39 15	50 10	brasilia regnum.	345 0	10 0 s
barbada	320 50	19 50	braua	74 30	0 30
La.Barbada	192 50	1 50 s	brest	20 0	48 50
barbados	210 10	8 50	brest	331 0	53 0
barlingas	16 20	39 30	bruage	25 30	45 50
barnagasso reg	70 0	13 0	bruges	29 0	51 10
S.Bartholome	194 30	14 0	buda	48 0	47 20
basell	37 10	47 50	Burdeaux	26 0	45 10
Beciasa	65 0	10 30	Bristow	22 50	51 35
becolicus a mõt	56 0	26 30	barwicke	24 12	55 50
Beil	76 15	27 10	brachpiult point	21 25	53 0
Belef	69 0	51 40	in Wales.		
belle Ile	334 0	52 20	backapra	31 0	59 50
belisle.	21 40	47 0	Brusels	30 50	51 0
Belt	52 30	50 0	barcelona	28 15	41 10
bengala reg.	126 0	26 30			
benichao	136 0	3 50			
Benin regnum	41 0	7 40			
be pirus a mont.	143 0	34 0	C		
bepirus a riuer.	138 20	34 0	Capes.		
berga.	40 10	62 50	Ca.de Alinde	346 50	1 0
Bergen	30 30	60 50	C.dell ambar	83 30	2 0 s
berwick	22 50	55 50	C de s.antonio	289 15	22 50 s
bethle	138 50	25 40	capecleare	14 10	51 9
biafar regnum	50 0	4 0	C.de s.antonio	74 30	17 0 s
bialigrod	58 20	47 30	C.de s.augustin.	162 0	6 30
bilbao	23 30	43 0	C.de s.augustin.	354 0	8 30 s
blaskey	12 0	51 40	C.Baxo	328 0	4 20

Ca.de

C	Longi.	Latit.		C	Longi.	Latit.	
C.de las baxas	19 41	15 29		Cape de la mola	36 51	6 29	
C.bedford	320 1	65 29		cabo de nombre de Ieſus	308 11	53 1	
C.blanco	273 19	25 21		Cape Ortegall	18 29	44 11	
C.blanco	281 19	10 29		Cape de Palmas	348 11	1 19	s
C.blanco	330 11	1 1	s	cape paſſaro	46 29	36 51	
C.blanco	331 21	4 29		cape raſalgate	96 21	22 21	
C.blanco	334 21	52 1		cape Raſo	317 41	8 1	
C.blanco	9 29	20 29		cape Roxent	16 29	38 51	
C.blanco	289 41	2 21	s	Cape roxo	11 1	12 1	
C.blanco	151 1	22 41		ca. ofgoodhope	50 29	35 1	s
Ca.braua	275 1	27 29		c del ſpiritoſant	161 11	13 11	
C de breton	331 1	45 41		Cape s. Vincent	17 1	37 1	
C.cameron	287 21	25 41		Cape Verd	9 51	14 29	
C.cantin	17 1	32 11		c.de bonavilla	334 21	49 11	
C.de s.caterina	41 1	1 1	s	C. Waltingham	321 1	63 41	
C.de cro	31 29	42 11		caindu reg.	136 1	47 1	
C.croce	65 21	48 21		cairo	67 29	30 1	
C.deſierto	281 21	29 21		cala mita	67 41	48 11	
C. deſperance	324 29	51 1		caldy	20 1	51 41	
C.de s.domingo	315 21	46 41	s	calecut	112 41	10 29	
C. droſey	13 1	51 11		Callice in Franc	29 10	50 40	
Cape Feare	305 11	32 29		Cales in Spaine.	20 51	36 11	
Ca.Felix	84 29	14 11		cambalu	161 11	51 41	
C.finis Terre	16 1	43 11		cana	68 1	25 41	
C. Florida	293 21	25 29		canada	305 11	50 21	
C. formoſo	28 1	5 1		canaria	9 29	27 21	
Ca.froward	302 39	53 21	s	candia	59 29	35 21	
C.de gato	26 39	36 51		caraiam regnum	136 51	41 1	
C.de s.helena	326 11	36 11	s	caribanum reg.	310 1	5 1	
C.de santiago	309 1	37 29		caribes	316 11	7 1	
C.s.Iohn	62 29	67 29		cartagena	300 1	20 11	
Cape de Krin	13 1	53 41		cartagena	28 21	38 21	
Cape de s.maria	77 29	24 1	s	cartago	299 29	3 11	
Cape de Maio	82 52	15 51	s	caſena reg	38 21	17 11	
Cape de s. maria	327 11	35 11	s	caſſar Reg	132 1	47 1	
Cape de s. Maria	9 41	21 41					

C	Longi.	Latitu.
cataio reg.	150 1	53 1
catnes	22 9	58 29
catwick	41 11	69 11
ceriz	87 51	38 41
chesimur reg	115 1	29 1
chester in engla	21 29	53 51
chicheſter	24 11	51 1
chidlyes cape	326 41	67 29
chily reg	305 1	30 1
chirman reg	96 1	26 29
ciartiam reg	136 29	51 1
cinna	67 1	41 21
cirena	53 29	32 1
cyprus		
clermont	30 55	45 51
cocas a mounta	79 1	47 29
cochin	114 1	9 41
collao reg	310 1	16 1
colmogory	62 41	63 41
colne	34 1	51 41
comania reg	86 1	51 1
congu	147 21	49 11
coninxberg	49 11	55 29
conſtantinople	61 20	42 0
coppen hage	38 29	55 51
coraiau reg	108 1	37 1
corck in Ireland	15 41	51 41
corfu an Iland	22 1	39 29
corinth	54 21	39 1
corſica	38 11	42 1
cotum reg	130 1	51 1
cracow	48 29	50 1
cuba	296 1	31 41
i. of cumb. Iles	316 1	63 21
cuſiſtan reg	87 1	32 0
conough	15 35	53 45

C	Longi.	Latit.
cambridge	25 50	52 14
clermont	29 1	45 1
D		
Dageroort	48 41	59 41
Dalacia	77 1	14 21
Damaſcus	74 29	35 1
Dantzick	46 1	55 1
L. Darcies Ile	327 51	68 21
Delli reg	114 1	18 29
Derwinda	47 51	57 29
Deuenter	33 25	51 51
Diep	28 41	49 29
Dires cape	321 29	64 51
Dominica	319 41	14 1
Don a riuer	75 1	53 21
Donecz a riuer	71 1	51 1
Dorow	58 1	51 29
Douer	28 11	51 1
Drongenes	4 29	66 29
Drin	50 1	45 1
Dubdu	25 1	32 51
Dubino	35 21	54 1
Dublin	16 41	53 11
Dumaran	150 1	8 41
Duy	34 29	59 21
Duyhe	56 29	50 29
Dauis ſtraights	324 1	64 1
Darby	24 5	52 55
Dunkerk	29 10	51 12
E		
Ebaida	60 1	25 29
Eſsonen	30 15	58 11
edenbrough	22 1	55 51

F	Longi.	Latit.
Elgent	80 0	17 20
Ely	25 20	52 40
Eliobon	72 0	27 0
Elior.	26 20	10 10
Qu. Elizab for-land.	337 0	61 30
Emden	34 10	53 10
Ens	43 0	48 30
Ens	74 10	37 30
Epheſus	60 30	39 40
Ergas	86 0	38 0
Ergimull	145 0	59 0
Euboya	56 10	41 0
Euphrates	76 40	40 0
Europa Reg.	55 0	51 0
Exetes.	22 10	50 0
Enchauiſen	21 40	52 54

F		
Falckzin	57 20	47 0
Falſterhode	40 0	56 0
Famagoſta	69 20	57 30
Farallones	294 20	11 40 s
Fargana	114 40	46 0
Farre	16 20	61 30
Cape Fattache	86 50	15 40
Faſo	75 50	45 40
Farnaſa	38 10	30 10
Fayall	356 0	38 40
Fernando buck.	351 40	9 20 s.
Feesreg	21 50	32 50
Fierro	6 20	26 30
Finmark	47 0	69 30
flambrough hed	20	54 0
Flensburgh	36 40	55 0

F	Longi.	Latit.
Florence	41 10	43 40
Flores Iland	353 40	39 20
Florida reg.	292 0	31 0
Focen	38 40	46 30
La formanos	310 30	60 40
Formentera	31 10	38 50
Forteuentura	11 0	28 0
Foyl	15 50	55 30
Frayles	314 30	11 20
Franckfort	36 30	50 0
Friſland	351 30	62 0
Frobiſhersr ſtai	331 20	64 0
a furious ouer fa	322 30	60 0
Farre Ilands	20 0	62 10
Farhill Ile	244 5	60 0

G

Gago regnum	25 0	8 30
Galathia	37 20	37 0
Gambra a riuer.	12 0	13 10
Gant	30 20	50 40
Garamantica	51 30	16 0
Garnſey	22 20	49 40
Gaza	70 50	33 10
Gemanacota	118 40	6 0
Geneua	33 40	46 20
Genua	37 50	45 0
Genua	15 20	16 0
Gerguth reg.	153 0	57 0
Germanareo	40 0	51 0
Gerſeluin	24 30	32 20
Geſt reg.	106 30	26 0
Ghir a riuer	25 30	22 0
Ghir a deſert	24 0	22 0

G	Longi.	Latit.		H	Longi.	Latit.	
Giamber	81 1	33 41		Hales Iland	337 51	63 1	
Gilan	94 1	39 21		Haliber	78 41	20 11	
Gilberts ſound.	326 51	67 1		Hallicz	52 51	48 41	
Giras a ryuer	41 21	20 11		Hambrough	37 11	53 21	
Galloway	15 49	53 15		Hartlepoole	24 1	55 21	
Goa	112 21	14 41		Harwich	27 29	52 1	
Godia	22 30	18 11		Hauana	292 11	20 1	
Gloſgow	29 1	57 1		Hebrides	15 20	58 1	
Golfo de bẽgalo	125 1	15 1		Heydelberg	36 1	49 1	
Golf de s.helena	48 41	33 29	s	Heiſt	23 29	46 29	
Golf de la India	44 21	3 41	s	Heiſhant	19 29	48 41	
Golf de los negr	350 30	2 0	s	Heptapolis	324 29	25 21	
Golfo del Rey	40 41	5 30		Herculespillers.	69 21	32 11	
Golf de todos ſantos.	345 30	1 41	s	Helichland	33 51	66 1	
				Hircania reg	100 1	40 1	
Gorage reg	69 1	2 1		Hiſpanio Reg	25 1	40 1	
Goram	58 15	28 30		Noua hiſpania	280 1	13 29	
Goteland	45 21	57 30		Hiſpaniola	306 1	18 29	
Gozo	58 20	34 41		Holindall	36 11	61 1	
Granda	318 20	11 1		Homey	61 30	52 51	
Granta	23 30	38 1		Honts oort	48 30	59 1	
Grecia reg	54 1	40 1		Hull	25 21	53 41	
Gratioſa	357 30	39 29		Hungaria	50 1	48 1	
Groninghen	32 11	53 1		Hidaſpes a riuer.	124 1	33 21	
Groenland	0 0	75 1		Hipaſis a riuer	124 1	33 1	
Groy	21 1	47 21		Helinhead	15 2	55 15	
Guber reg	27 1	9 1		Hereford	22 38	52 12	
Guangara reg	44 1	13 41					
Gudan	48 21	8 51					
Guinea noua	180 0	5 1	s	I			
Cuinea reg	18 0	9 1		Iacuby a riuer	63 1	48 1	
Gulye	33 30	50 41		Iadye	58 21	11 41	
Gunagona	67 30	6 1		Iamaica	238 29	17 1	
Guſtina	109 30	56 11		Iambut	72 29	26 29	
Giberalter ſtraig	21 30	35 29		Iarchem reg	117 29	44 1	
				Iapones	169 136	1	

I	Long.	Latitu		I	Longi.	Latit.	
Iarsey Iland	23 1	49 20		Ile de los ladro- nes.	177 21	15 1	
Iaua maior	140 1	9 c	s	Ile de Lobos	307 41	40 21	
Iaue minor	150 1	9 0	s	Ile de S. Maria	296 29	37 21	s
Iazin	77 30	20 30		Ile de Martin vaz.	10 41	21 41	s
Ierico	73 1	33 0		Ile de May	4 29	13 29	
Ierusalem	72 21	33 0		Ile S. Michael	0 c	39 29	
Ilmens a riuer	105 1	27 0		Ile de negros	155 29	10 29	
Imaus a mountayne	128 1	39 c		Iland of foules	334 1	50 1	
Ind a oriental	135 1	26 0		Ile de orlance	312 1	50 29	
Indus a riuer	115 29	26 0		Ile de paiaros	314 1	12 41	
Inspurg Ilands.	40 41	47 50		Ile de palmas	163 21	6 1	
The three Ilands	169 21	2 0	s	Ile de paxaros	198 51	8 51	
Ile de don Alphonso, de Aluares	202 8	8 0		Ile de paxaros	234 21	28 1	
Ile de aues	310 30	11 20		Ile of pearles	293 11	7 1	
Ile de aues	173 50	4 30		Ile de pinos	292 21	21 29	
Ile de bastinado.	293 30	10 30		Ile de rees	162 1	25 21	
Ile braua	1 20	14 20		Ile of salt	4 11	16 29	
Ilas de corales	194 40	9 50		Iolomons Ilands	204 1	10 1	s
Ile desierto	178 0	31 1		Ile of the Sonne.	347 41	10 29	
Ile del fuego	2 29	14 21		Ile S. Thomæ	38 1	0 1	
Ile del fuego	181 29	27 41		Ile of S. Thomas	252 1	20 11	
Ile del los galopegos maiores	281 10	4 0		Ile de verde	353 51	45 29	
Ile de los galop. minor	277 30	1 11		Ile de S. vincent.	175 50	8 0	
Ile de hombres blane	169 20	5 41	s	Ile de S. vincent.	73 21	20 29	s
Ile de S. Iago	158 20	8 1	s	Ioam	135 1	7 29	
Ile S. Iohn	325 29	42 30		Iolofo reg	24 29	6 1	
				Ipswich	27 12	52 22	
				Ioppe	71 21	34 1	
				Isabella	305 21	18 51	
				Island	8 1	66 1	
				Italy reg	42 29	43 1	
				Ireland	16 1	53 29	

K	Long.	Latit.
Iucatan reg	283 0	18 0
Iugor	138 0	7 50
Iuica	31 21	39 30
Iulibella	61 0	1 30
K		
Kalmuchy in tartaria.	95 0	51 0
Kaniow	63 40	51 10
Karakithath reg.	119 0	51 0
Karatzef	67 20	53 0
Kargapole	66 30	61 50
Kaſakky tartaria.	103 0	51 0
Kiow	62 20	51 10
Kithais reg	110 0	57 0
Kithay a lake	123 31	53 0
Kola	54 51	69 0
Koleuig	4 11	65 10
Koſara riuer	96 40	49 0
Kinraile.	19 39	56 45
Kinſale.	15 3	51 35
L		
Lacierna	24 50	39 30
Ladena	53 30	41 31

E	Long.	Latit.
Ladoga	62 11	61 40
Lago de los coronade	295 1	44 0 s
Laia	45 29	64 10
Lampeſa	36 21	33 0
Lancerrota	11 41	29 30
Lanow	51 11	52 20
Laredo	22 51	43 0
Lariſſa	70 1	33 0
Larta	53 1	46 0
Leeknes	23 29	58 0
Leon	21 11	42 15
Leon	283 41	11 21
Leopolis	52 51	49 2
Lepin	98 1	58 41
Leguio Maior.	165 1	28 0
Leguio Minor.	158 41	22 0
Lerida	28 21	41 30
Leſter poynt	335 1	62 0
Lima	296 41	23 30 s
Limonia	72 11	44 20
Limoſa	43 29	34 50
Lyons	32 41	45 40
Liorne	40 21	43 30
Lisboa	17 29	39 11
Lizard	18 30	50 10
London	25 50	51 40
London coaſt	326 21	72 0
Lopeſo	74 1	49 41
Loyre a Riuer.	24 41	47 41

L	Long.	Latit.
Lubeck	38 29	53 51
Lucka	42 11	52 1
Luky	64 1	58 21
L. Lumleis Inlet	320 1	61 1
Luna a moun tayne	60 1	16 1
Lundy	19 29	51 1
Lutzko	54 1	50 21
Luſon an Iland	156 1	17 1
Lybia	33 1	23 30
Lin	26 25	52 48
Lincolne	25 25	53 22

M	Long.	Latit.	
Maboga	64 41	13 30	s
Machian	160 41	0 29	
Machoenta	39 51	33 51	
Macſin Ilands	93 30	75 30	
Macyra an Iland	62 1	19 40	
La madalena	44 41	7 1	
Madera Ilands	8 11	31 29	
Mæatis palus	71 30	49 29	
Magadaxo,	78 1	5 11	
Magalo	71 20	9 29	s
Maida	2 40	46 29	
Magallanes ſtraights	305 1	53 25	
Maiorca Iland	39 51	33 1	
Malabrigo	178 51	26 1	
Malaca regnum	136 30	2 51	
Malaga	23 51	37 21	
Maldiuaran Ilan	113 1	3 1	
Malorca	39 51	32 51	
Malta Iland	46 1	35 31	
Man an Iland	19 1	54 51	
Manatenga reg	77 1	22 21	s
Mandao reg	121 1	25 1	
Mangeſia	61 29	41 29	
Mangi or china.	150 1	37 1	
Manica	62 51	23 29	s
Manicongo reg	46 41	5 . 1	s
Maniola Iland	140 30	2 1	
Marchant Ile	327 1	68 21	
mare debachu or the caſpium ſea	92 1	45 1	
Mare congelatũ	345 0	64 0	
Mare de India	120 0	10 0	
mare maior	68 0	46 0	
mare mediterenium	50 0	35 0	
mare rubrum the red Sea.	75 0	20 0	
mare vermeyo	255 0	26 0	
mare del zur.	270 0	10 0	
Margarita	314 11	10 50	
marigalante	320 1	14 50	
marnios	306 21	40 40	
Marocco	20 1	30 29	
marceillis	33 51	43 40	
maſalio	23 29	36 20	
milford hauen	20 5	51 48	
maſtagan	30 21	35 20	
mazacar	169 1	33 0	
meandera moun taine	152 1	31 30	

M	Long.	Latit.	
Meb	46 29	54 40	
medina cely	23 29	41 10	
medina talnaby	73 1	27 20	
medino	98 29	36 29	
meidleburgh	29 41	52 0	
meissen	41 1	51 10	
melinde reg	71 21	3 20	s
melly reg	15 41	12 0	
meluing	48 1	54 50	
ments	35 51	50 0	
meshet	85 29	52 50	
mesepotamia	78 1	35 0	
messana	45 51	37 50	
metz	33 29	49 45	
mien reg	136 1	31 0	
miens kow	56 41	54 50	
millan	38 29	46 10	
minorca Ile	34 29	40 c	
modon	53 21	37 0	
moguer	20 1	37 50	
moldauia reg	55 1	47 0	
molines	30 21	46 40	
molucca Ilands	160 41	1 c	
momorancy	306 1	47 0	
mompelier	31 29	44 10	
mongull reg	160 1	61 30	
monte de branid	47 11	30 15	s
mont fragoso	344 1	12 0	s
mont negro	44 41	17 0	s
mont Raleigh	320 29	65 0	
mont royall	301 1	45 40	
morea reg	54 30	38 0	
mosaik	68 50	55 0	
mosambique re.	70 20	14 40	
moscouia reg	80 c	59 0	
moskow	70 30	55 0	

N	Longi.	Lati.
mossa	84 30	35 0
mosull	84 0	34 50
mozena	24 20	34 30
moseenek	69 50	51 30
munster	35 0	52 10
N		
Nabarz	79 50	50 50
Nagay in tartari	97 0	53 30
Naym	94 10	33 40
Nayman reg	140 0	64 0
Naynen	31 10	50 0
Nantes	24 10	47 50
Napoly	45 0	41 0
Napoly	55 10	58 c
Napthaly	73 0	34 30
Narbona	30 20	43 20
Nardenborg	47 10	67 50
Narue	56 10	60 0
Nauare	21 55	42 39
Naseph	110 30	43 0
Natolia reg	66 0	41 0
Nazareth	72 40	34 10
Nerpis	45 30	62 50
Neunox	57 0	64 20
Newcastle	23 10	55 20
Nicarea	59 30	39 30
Nicobar an Ilan	130 30	16 40
Nicomedia	63 30	44 20
Nicopolis	56 30	45 0
Nieflot	57 50	59 50
Nilus a riuer	67 20	32 0
Ninus	82 20	37 0
Nisa	36 10	44 0
Nissa	45 30	50 30

N	Longi.	Latit.
Noes mountain	81 1	40 21
noion	30 1	49 22
nombrede dyos.	294 29	9 22
nomedalen	33 26	65 29
normar	38 2	61 21
norombegã	315 41	43 41
norweygn	35 1	62 ·2
nouogradec	57 11	53 2
nougrod	65 29	52 41
nowgorod	62 51	60 29
nowgorod	80 2	55 21
nubia reg	57 2	13 1
nubia a riuer	57 2	15 41
nuremberg	39 29	49 29
norwich	27 15	52 45
O		
Oby a riuer	107 1	60 1
Occa a riuer	77 29	55 41
Olant	43 29	57 1
Olleron	24 29	45 29
Olone	24 29	47 1
Omaguá reg	310 1	9 1 s
Omba	54 11	66 51
Onega a riuer	56 41	64 1
Onegaburg	59 29	62 29
Opakow	64 29	53 29
Orchades Iles	22 11	59 2 s
Orellana	343 11	3 2
Orixa reg	119 1	19 2
Orleans	28 29	48 2
Ormus Ile	91 21	27 29
Orſa	59 51	54 21
Otſa	41 21	61 29
Ortona	44 29	42 40

C	Longi.	Latit.
Otronto	49 29	40 21
Oxenford	24 1	52 1
Oya reg	75 1	13 1
oſtend	29 29	51 29
orenge	30 35	43 35
orlyance	27 52	47 42
olde ſound	31 35	61 35
P		
Paganſa	99 51	45 1
palagoſa	47 29	43 1
palandura Iland.	10 8	11 1
palatia	60 51	39 21
palma Iland	6 21	28 1
pancer	120 1	41 1
pampalona	24 29	42 41
panama	394 29	8 11
pantanalia	42 51	36 29
pauic ›	270 11	22 21
patricks purgato	15 52	54 32
parris	29 25	48 29
parma	39 20	45 11
paſſan	41 50	48 41
pauia	37 51	46 11
pazanſu	155 29	54 51
pechora	66 51	67 1
pechora caſtle	73 51	64 51
pegu reg	135 1	20 11
peim regnum	132 1	51 29
perigo	323 11	43 21
pernou	53 29	58 41
peru reg	296 1	10 1 s
peruſia	42 21	43 11
peſcara	34 29	30 11
phillipina Ilands	158 1	15 1

P	Longi.	Latitu.		Q	Longi.	Latitu.	
Pico	356 41	38 21		Primsberg	48 30	55 11	
Picora regnum	317 1	10 2	s	Pruſſia reg.	50 1	54 0	
pigmea	148 41	32 2		Ptolamais	66 41	29 40	
pinisko	55 1	52 2		Punto delgada	85 51	11 0	
pilingu	144 21	40 2		Punto de S. Hele	290 11	2 11	
pina	296 21	3 1		Punt de S. helen	325 21	37 30	
pinegle	131 21	52 29		Punt de S, Lucas	252 29	33 29	
pinego	61 11	64 29					
pyramides	173 11	20 21					
piſa	40 29	43 41		Q			
pizan	73 1	51 29		Quinza	157 29	44 10	
plata	315 1	19 51	s	Quelinſu	158 29	36 1	
plimouth	21 11	50 51		Quianſu	144 41	42 29	
ploosko	48 11	52 41		Quiloa reg	69 51	8 51	
plotzco	57 29	57 41		Quinzay	153 1	40 1	
podolia reg	59 10	49 29		Quito	293 11	0 11	
poicters	26 29	47 21		Quiuira	233 1	43 40	
poldauid	20 5	47 55					
polonia reg	53 1	50 1					
poparopo an Ile	128 41	16 29		R			
buen porto	177 21	2 1	s	Raguſy	49 29	44 1	
port de canoas	239 21	36 41		Rameſes	68 29	30 30	
port de cauallos	283 1	14 21		Rane	352 41	62 41	
port de la conce	45 41	24 21	s	Rauenna	42 21	44 21	
port deſire	313 1	47 41	s	Rhodes	61 41	37 21	
port famin	302 51	53 11	s	Ryanrech	94 41	40 1	
port fremo'	44 1	4 1	s	Ribadeo	19 21	43 21	
port del gado	42 11	3 51		Riga	53 30	58 1	
port de s. miguel	240 29	35 2		Reines	30 35	49 12	
port de negrillo.	296 51	17 11		Riuers.			
port ſalido	186 41	3 1	s	Rio de arboleda	331 41	1 41	
port ſanto	10 1	32 29		rio de s. Auguſtin	350 1	15 30	s
port S. Vincent	337 21	23 51		rio de s. Barbara	326 41	34 41	s
praga	42 29	50 1		Rio dell braſill	348 21	17 11	
preſlaw	45 11	51 11		Rio de los cama-	42 1	5 29	
preſlaw	49 41	49 45		rones.			

Rio del

R	Longi.	Latitu		S	Longi.	Latit.	
rio de camarone	315 1	44 29	s	Sabarza	154 51	45 1	
rio dell campo	42 29	2 51		Sableſtan reg	114 1	34 1	
rio de cano	298 41	33 11		Sabron	84 51	45 11	
rio dangla	42 29	1 41		Saendebar	174 41	35 51	
rio dulce	316 29	52 1		ſagatin	95 29	58 21	
rio de s. doming	353 1	7 51	s	ſala	49 41	48 1	
rio del eſtremo	340 41	22 59	s	ſalamanca	20 29	40 51	
rio de Flores	287 19	29 1		ſalaſta	72 41	41 51	
rio del gado	34 21	6 21		ſalebrema	24 51	37 29	
rio de gigantes	278 29	29 1		ſalina	45 1	38 29	
rio grande	301 11	11 1		ſalsburg	42 1	48 21	
rio grande	314 29	44 1		ſalſtom	32 21	62 1	
rio del guato	284 29	29 29		ſaluado	321 21	5 1	
rio de la hacha	304 15	10 41		ſamarchant	109 1	44 1	
Rio de S. helena	348 41	16 29	s	ſamaria	72 21	47 41	
S. lawrens riuer	318 51	53 1		ſanderſons towr	320 1	65 29	
rio de manicõgo	48 21	10 1	s	hope ſanderſon	326 21	72 41	
rio del oro	10 21	22 29		ſandry	162 51	53 1	
rio de palmas	272 11	14 21		ſanſon	20 41	43 21	
rio panucõ	271 51	22 29		S. crux	334 21	43 29	
rio de perla	292 29	29 1		S. dauids	20 1	52 1	
rio de la plata	326 29	36 1		S. Domingo	307 11	17 51	
rio primero	327 41	45 1		S. George	357 11	39 1	
rio Santo	300 29	3 1	s	S. helena	24 29	16 1	s
rio de ſpirito ſan	281 29	31 1		Santiago	264 29	20 29	
The white riuer	308 11	51 21	s	Santiago	298 11	32 11	
Rypon	35 29	55 21		S. Iago	175 29	2 1	s
Roan	27 41	48 51		S. Iohn de luz	25 11	43 21	
Rochell	25 29	46 41		S. lazaro	71 1	11 21	s
Rome	42 29	42 1		S. lucar	21 21	37 11	
Rooſwick	40 21	54 1		S. lucia	1 1	17 1	
Roſtone	72 11	57 1		S. malo	24 21	48 51	
Ruſſia	57 29	59 29		S. maria	82 29	17 1	s
Rye	27 29	51 1		S. maria	240 41	34 21	
				S. maria	0 29	36 1	
				S. maries	85 1	44 29	

S. maries

S	Longi.	Latit.
S.maries.of naza.	66 30	16 29
S.Martha	301 21	10 41
S. Martin	321 11	51 1
S.Martins Iland	293 40	46 51
S.Mathews	21 11	1 51
S.Michel	60 50	65 29
S.Michael	0 50	38 5
S.Miguell	327 21	47 21
S.Miguell	291 41	6 11
S.miguel	268 0	24 1
S.miguel	249 0	32 51
S.Nicolas	69 0	54 1
S.Nicolas	323 21	53 41
S.Nicolas	2 2	17 1
S.Petro	64 29	1 29
S.pol de lyon	20 41	48 48
S.lamſon	306 29	40 29
S.Vincent	0 29	17 29
S.Vincent	318 41	11 51
Sapom Iland	107 11	0 29
ſarachy	84 29	44 11
ſaragoſa	26 11	41 51
ſardinia	39 1	40 0
ſatyres Iland	174 11	46 30
ſauatopoly	75 29	47 21
ſcarbrough	24 51	54 51
Schotland	25 0	60 0
ſcotland	20 0	57 0
ſegedin	49 1	47 11
ſeames	19 29	48 21
ſenega reg	13 1	24 1
ſernery reg	106 29	33 29
ſhabogliſhar	83 41	56 29
ſhabas kik	91 29	53 1
ſhrewsbury	22 35	52 55
ſhensk	68 40	61 51
skalholt	8 30	65 20
ſibier reg	99 20	59 30
Sicilia	45 0	37 30
ſidon	72 10	36 30
ſigiſtan reg	105 0	31 0
ſimiſo	69 10	44 21
ſina	70 0	41 41
ſinay mountaine	75 0	30 1
ſinus mexico	280 0	26 1
ſinus perſia	85 0	29 1
ſion	59 10	12 40
ſipanto	45 30	41 50
ſuill	18 6	37 45
ſlaba	55 50	58 41
ſlauonia	47 0	45 1
ſlego in Ireland.	15 35	54 15
ſlowoda	68 20	64 30
ſlowoda	86 30	58 51
ſlutzk	59 0	52 58
ſmirna	60 21	40 29
ſnauell	2 30	64 21
ſolangi reg	139 0	50 1
ſolosky	55 0	64 29
ſorlings	18 0	50 1
ſpakado	46 50	45 21
ſpier	35 30	49 21
ſpina	60 50	43 29
ſtad	30 40	61 41
ſtapholt	2 20	65 41
ſtetin	42 10	53 51
ſtoby	52 30	44 1
ſtocholme	42 0	58 11
ſtraights of matuchin.	74 30	73 11
Suedia reg	40 0	60 1
ſumatra an iland	134 0	0 1

T	Long.	Latit.
tweſt	64 51	52 11
ſwinburne head	25 1	59 51
ſiria	74 1	36 1
ſiracuſæ	45 41	37 1
ſouthhampton	24 5	51 11
T		
Tabaco	322 11	10 41
Tacan	152 21	48 51
tagaranto	143 29	2 21
taguina an Iland	154 29	5 21
taiona	59 29	53 29
talabora	312 1	26 21 s
talcan	85 1	47 1
tamaſa	75 29	46 1
taranto	48 1	40 29
tarapaca	306 21	30 41 s
tarbacan	109 29	34 51
targa reg	32 1	25 1
tarragona	29 29	40 41
tarſo	71 21	40 1
tartar	152 1	63 21
tartaria reg	130 1	62 1
taskent reg	129 1	49 1
tatracan	55 1	44 51
tellin	13 29	54 41
tenariffe	8 11	27 29
tenduc reg	170 1	59 1
teneſab	46 51	61 11
tercera	358 23	39 1
terra alta	160 29	6 41 s
terra alta	45 21	15 21
terr de los fumos	322 29	40 21 s
tharſis	115 21	49 1
theſſalonia	53 41	44 21

T	Longi.	Lati.
theſſet reg	20 0	29 10
thebet reg	138 50	44 1
tholoman	144 20	40 1
tholouſe	28 40	43 50
thunis	67 40	32 1
Tigris a riuer	84 1	34 30
tocros	54 50	46 1
togora	146 0	49 50
toledo	22 20	39 40
tollon	34 5	43 20
toul	33 10	49 10
toures	27 30	47 50
trebiſonde	74 30	44 40
Trent	40 10	46 10
triago an Iland.	278 40	21 1
tubanta	63 30	41 50
trin	36 30	45 40
trinidad	355 20	19 10 s
trinidad	295 50	21 20
trinidad	319 20	9 1
trinity harbor	308 30	36 1
tripolis antiqua.	44 21	30 20
tripolis in barba.	45 21	30 30
tripolis ſoria	72 21	37 1
troia	59 1	42 30
Troy	31 1	48 10
tuia	82 51	52 1
tulla	72 1	53 20
tuna	41 51	64 30
tunis reg	40 1	36 1
turchy reg	110 1	47 1
turſon	131 30	56 30
tyrus	71 35	35 30
tzercas	79 50	49 20

V	Long.	Latit.
Vaiguy.	150 50	39 1
Valentia	29 20	39 41
Varcano.	107 50	39 1
Varon	83 30	70 30
Vaygats an Iland	81 30	69 21
Venice.	41 40	45 51
Verdiso	59 50	45 0
Verdun.	32 10	49 20
Verma reg.	133 0	21 30
Verona	40 40	45 50
Viana.	17 30	42 0
Viatca.	87 50	59 30
Vich.	81 40	53 50
Vienna	45 30	48 30
Villac	48 0	46 50
Villa longa.	28 20	7 40
Ville conde.	17 30	41 30
Villna	54 30	55 0
Virginia	302 °0	36 0
Visligrod.	61 30	51 30
Bona vista.	4 30	15 30
Buena vista	308 40	40 11
Buena vista	177 30	13 30
Vkkill	53 10	57 0
Vlm	37 50	48 50
Volga a riuer.	75 40	58 0
Vpsalia.	42 50	60 0
Vreamia	23 50	46 °0
Vrgis a riuer.	85 50	53 20
Vstiug	79 30	61 30
Vstuina	67 0	59 20
Vuall	42 40	62 50

W	Long.	Latit.
Waersbergen	39 1	57 30
Wardhous	50 30	70 29
E. warwicks forland.	323 11	62 1
Waterford.	17 15	52 16
Count. warwick sound	330 41	64 41
Wakefield	23 48	53 45
Wassilgorod.	81 50	56 41
Waxon.	49 20	52 29
Weimouth	23 50	51 1
Welichy	96 30	56 1
Weliky poyassa	101 20	63 29
Weliky tumen.	95 40	56 21
Welisz	63 40	56 51
Weroy.	36 50	68 41
Wesel.	31 29	51 29
Westerhol	40 29	67 41
Whitbay.	24 29	55 1
Wiborogh	56 29	62 35
Wight Ile.	25 11	50 29
s. hugh willobies Iland.	55 0	75 0
Winterton.	27 20	53 29
Wologda.	73 50	59 29
Wologda.	74 30	60 0
Wollok.	68 31	55 50

X

xaiel.	85 30	15 41
xandu.	168 40	55 41
xanes	311 30	11 1
xaques	282 0	20 29
xara.	130 0	17 1

Y	Long.		Latitu		Z	Longi.		Latit.	
xibuar.	116	0	46	30	Zama	74	41	11	41
xiuxa	301	30	12	0	zanhaga reg	20	1	24	1
xumete	304	20	23	0	zanzibar	73	52	6	29
					zaphalonia	52	1	38	29
					zara	46	25	45	41
Y.					zaradrus a riuer.	126	1	94	1
Yarmouth.	27	30	53	1	zauan	41	29	51	1
Yorke.	23	30	54	29	zebeng	138	41	35	41
Yuagua.	303	30	21	1	zebil a mount.	47	1	17	1
Yuchrepe.	22	50	56	26	zedica	48	1	29	29
					zegzeg reg	36	41	14	41
					Noua zembla	83	29	74	1
Z					zerigo	56	1	36	1
Zacabedera	140	40	13	11	zigeck	45	51	40	51
Zacana a riuer	60	40	13	1	zimbaos	59	1	25	21
zacatula	269	40	20	1	zingis	76	11	49	29
Zacotó an Iland	88	0	12	51	zodiala	57	51	4	1
Zagatay	105	0	45	1	zoidalanell	137	31	3	51
Zahaspa	101	20	42	29	zuenziga reg	25	1	25	0
Zalines	51	0	58	29	zuiatzko	85	21	56	0
Zama	49	30	14	1	zunbal.	39	31	37	30

FINIS.